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Practical and Progressive Agriculture, Horticulture,
Trucking, Live Stock and the Fireside.

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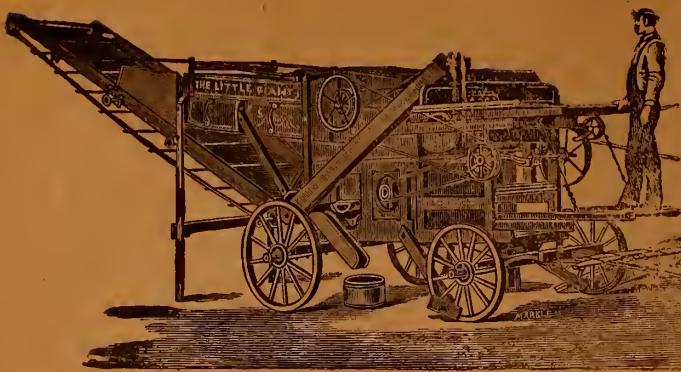
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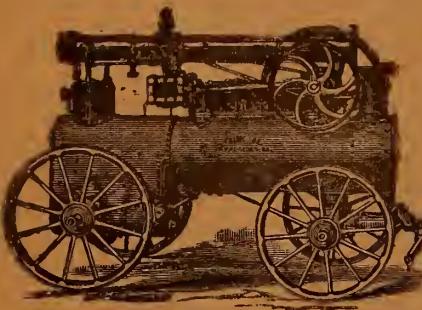


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**Agriculture is the nursing mother of the Arts.--XENOPHON.
Tillage and pasturage are the two breasts of the State.--SULLY.**

64th Year.

Richmond, June, 1903.

No. 6.

Farm Management.

WORK FOR THE MONTH.

At the date of this writing (20th May) the contrast afforded in the weather, as compared with that at the time we wrote our article on work for the month for the April issue, is the most strongly marked we have ever known in so short a time. Then nearly the whole of the Southern States and many of the Eastern and Northern ones, were suffering from an excess of cold rains, which had been long continued, and there seemed no immediate prospect of relief. Now, nearly the whole of the South and all the Eastern and Northern States, and many of the Middle States, are suffering from drought, which, in many places, has already done serious injury. The rains ceased in the last week in April and since May came in we have had dry, cool weather with decidedly cold nights and a complete absence of genial, growing weather. Not until the present week have even the mid-days been warm. Notwithstanding this ungenial weather, crop conditions in the South are not yet seriously impaired, but a continuance of the like conditions for another week will work serious injury. Already in several of the Northern and New England States damage has been done which cannot be made good, whatever the subsequent weather may be.

In our April issue we sounded a note of warning as to the probability of drought following so long a period of rain, but we did not look for its setting in so soon. If, however, what we then said was heeded, many a farmer may already have saved himself from much loss by a careful conservation of

the moisture in the ground. Where the surface soil has been kept stirred and loose there is yet a reserve of moisture in the land which will serve to carry the crops planted through a further period of dry weather. Wherever the surface soil has been allowed to become compacted and hard, moisture has been rapidly exhausted, and it will require some days of rain to fit such lands for planting, and the probability is that the effect of the present drought will be seen in the yield of such crops at harvest.

The condition of the wheat crop of the country still remains a high one, though it suffered some impairment up to 1st of May and no doubt will have been further injured since that date. On the 1st of May the average condition throughout the country was 92.6, against a condition of 97.3 on 1st of April, 1903, and 76.4 on May 1, 1902, and 82.5 the average of the last ten years. The condition in Virginia on May 1st was 94; in North Carolina, 75, in South Carolina, 78, and in Maryland 97. These figures show but little impairment from the April condition, and are very high ones for this section, being, in most cases, in excess of the ten year average. Winter oats are still looking well in most sections, though beginning to suffer from want of rain. Spring oats are seriously impaired, and in many sections will be a failure. This once more emphasizes what we have so often said, that the spring oat crop is not one for the South. Grass and clover crops were looking very well up to a week ago, but are now showing the effects of the drought, and the yield will, no doubt, be

cut off considerably. Crimson clover has made a better crop than usual, and some excellent hay has been made from it, which will help to make good the deficiency in red clover and meadow hay.

The work of planting the corn crop will, we are afraid, occupy the attention of many farmers for some time yet. The sodden condition of the land up to the beginning of May, and the quick drying of the fields under the influence of the cold, dry winds of that month, caused much land to remain unplanted at the end of the month, and a great deal of that planted was put into a poor seed bed and will make slow progress and require frequent cultivation to stimulate its growth. Where land is unploughed on the 1st of May, as is too often the case, the occurrence of such a spring as this has been is bound to cause poor stands of corn. The only remedy for this is to plough in winter and the first months of the year whenever the land can be worked, and then to fit it for a seed-bed with the disc harrow, roller and cultivator. Under this system moisture can be accumulated in the land and afterwards be conserved there and the work of fitting the land for the seed can be much more quickly completed when the time and season for the work comes round. All haste possible should now be made in completing planting, and the work of cultivation should have constant attention so as to hasten the growth of the crop. In our last issue we wrote at length on the proper method of cultivating the crop, and to this we refer our readers. We will add to what we then said, the following very valuable advice given by Mr. Terry in the *Practical Farmer*:

But now let me give you one absolute rule in regard to the use of the cultivator, weeder or harrow in growing crops. You cannot do this work just when you have the time and get best results. It will not do to simply go over the ground so many times in a season, without regard to when, simply often enough to keep the weeds down. Let me tell you about the when, a matter that has literally brought us thousands of dollars. From start to finish never let the surface dry up after a rain, or rainy spell, and remain unbroken. Stir it always as soon as the land is dry enough to work. If it rains again in twenty-four hours, no matter, stir it again. If it does not rain, is all dry and dusty, never mind, stir again inside of a week any way, although you work in a cloud of dust. This stirring makes a mulch that saves water from evaporation—saves it for the crop. Water evaporates rapidly from an unstirred surface when the sun shines or the wind blows, but very slightly after you have made the surface fine

and mellow two inches deep. This is the way to save water for your crop in a dry time. But keeping weeds down and saving water is not all one does by so much work. No! There is much inert plant-food in the soil. Ordinary tillage makes a little available. This extra tillage makes more ready for plants and you get larger crops. Larger because you have kept weeds from getting any. Larger because you have saved water for the crop. Larger because it has been able to get more to grow on. I hope you all prepared your ground well and have it well supplied with vegetable matter, then this extra care of crop will pay still better.

The planting of corn for filling the silo should have attention during this month. We wish that more of our subscribers had silos to fill. We have repeatedly urged the building of a silo on every farm having more than half a dozen head of cattle on the place. It is the cheapest barn a man can build and preserves the feed placed in it in a succulent condition, which makes it always acceptable to the stock, and results in great economy in feeding, as the stalks are softened so that they are readily consumed with the finer portion of the feed. In our July issue we will give instructions for the building of a silo, and hope that many will be induced to try one. Once used no stock-keeper will ever want to be without one again. The best crop with which to fill a silo is corn or a mixture of corn and cowpeas or corn and soy beans. Corn alone makes a silage rich in carbohydrates, but lacking in protein. The addition of cow peas or soy beans supplies the needed protein, and makes the feed as taken from the silo nearly a completely balanced ration. Where corn alone is grown for filling the silo, or when corn is grown mixed with peas or soy beans, the crop should be planted in rows three feet apart and six or eight inches apart in the row. This admits of cultivating the crop and ensures that the stalks shall carry a fair proportion of ears. The stalks and fodder also become more fully matured and the silage made will be sweeter and not so watery. We are strongly in favor of growing cow peas with the corn. Those of our subscribers who have adopted this plan speak in the highest terms of the mixed crop. They get an increase in the yield at practically no cost except that of the cow-pea seed and get also a much more valuable feed. It is true that the increased yield is not so great as would seem probable generally. Usually it amounts to about 25 per cent. in actual weight, but this gain costs so little and is attended with other advantages in addition to the improvement of the feed that render it most advisable. Amongst these

advantages is the economy in land to be got ready for seeding and of the cultivation of a separate crop, and also the fact that a silo will hold much more feed made from a mixed crop than from one of corn alone. Experiments made at the Delaware Experiment Station show that a circular silo seventeen feet in diameter filled with settled silage to a depth of twenty-three feet would hold ninety-two tons of corn alone or 132 tons of mixed corn and peas grown in the proportion of 75 per cent. of corn and 25 per cent. of peas, which is about the usual proportionate weight when grown together. When grown together the corn should be first planted and at the second cultivation the peas should be drilled in along side the corn rows. The best variety of pea to use for this purpose is the Whippoorwill, as they grow more compactly in the corn row and do not reach across to the adjoining rows so as to tether the crop together and make it difficult to harvest with a machine. Grown together in this way from twelve to fifteen tons of silage to the acre may be readily produced and on good land even twenty tons can be cut. Where soy beans are used for the protein crop they may be grown between the corn rows, which should, in that case, be four feet apart. We prefer, however, to grow this crop separately and mix with the corn when filling the silo. They make a better yield in this way.

The forage crops, about which we wrote fully in our last issue, and on which subject we say another word in this issue, should be planted during this month and July. For information as to the best way in which to plant these crops see our May issue.

The thinning out and cultivation of the cotton crop should receive close attention during this month. The yield of the crop largely depends upon the early vigorous growth of the plants and this is very largely influenced by the quickness with which the crop is brought to a stand and the repeated cultivation of it.

The planting of the tobacco crop has been much delayed by the drought of May and much of it will not yet have made a start in growth, even if planted. Push on the work of planting as quickly as the season will permit and let cultivation be often and shallow. When the crop is large enough to top do not top too high. It is better to have fewer leaves, all fully and evenly ripened, than a greater number of which part have to be cut before ripe. An evenly cured crop of

tobacco all of the same color and texture can never be made out of a crop cut in different stages of ripening. The growing of this crop under shade is making progress in the New England cigar-leaf sections, and to some extent is being tried in the South on the Havana and Sumatra types, but we have not heard of its being attempted with the bright and heavy shipping types. Fine results have been obtained with the types upon which the system has been tried. The cost is great, however, and seems likely only to be profitable upon such types as command high prices. From \$600 to \$800 per acre is a large initial cost to be incurred. Look out for the worms and see that the first brood is closely destroyed, either by hand picking or by spraying. Spraying tobacco with Paris green is certain death to the worms and causes no injury to the tobacco or to the human consumer of it. We would, however, advise that no tobacco be sprayed with the Paris green after it begins to ripen or when getting near that stage, as the poison may stain the leaf and thus prejudice the sale. A mixture of one pound of Paris green to 160 gallons of water will make a solution strong enough to kill the worms.

The harvesting of the wheat and oat crops will call for attention before our next issue reaches its readers. Do not let the grain become over-ripe before putting in the binder. An over-ripe crop never makes so good a sample as one cut just before being dead ripe. The grain is not so bright nor so plump. Besides this, an over-ripe crop shatters badly in handling and the yield is thus much reduced. See that your binder is in good repair and order, and that you have a reserve of the principal working parts on hand, so that in the event of a break you will not have to wait until repairs can be had from the makers or dealers. Many a good crop has been lost from neglect of this precaution. The carelessness with which agricultural machinery is frequently stored—and too often it is not stored at all—makes it very necessary that careful examination and cleaning of the machines before using should be made. It is a sad commentary on the farmers' care of his binder that the Professor of Agricultural Mechanics at the Illinois Agricultural College has stated that as the result of enquiries made in Illinois, he finds the average life of a binder in that State is only four years and the average time used each year is only six days, thus making the real working life only twenty-four days. We are afraid that in this State a not much better record would be found. For so costly a machine this is a very expensive life. With care a

binder should last many years more than four. The scarcity of hands is likely to cause difficulty in handling the crop in many sections. Obviate this as far as possible by looking up and hiring the required hands before the crop is ready for cutting. See that, if possible, you have at least sufficient experienced hands to shock the grain as cut. Every sheaf should be in shock before leaving the field at night—if not prevented by rain. Sheaves left unshocked soon begin to shatter the grain and lessen the yield. See that the shocks are well capped, so that rain is kept out of the center. It is there where the damage is done in case of rain.

The harvesting of clover and hay crops will also require attention. Whilst the drought we are having will, no doubt, somewhat reduce the yield of these crops, yet the good growth made in March and April will ensure a fair yield. See that the crops are cut before the heads are full of seed. The greatest nutriment is found in clover and hay when in bloom, and the greatest weight of produce can also be secured by cutting at that time. After the seed begins to form the nutritive value decreases and the stalks become dry, withered and light. When cut do not let the crop remain broadcast until all the nature is dried out of it and the leaves are crisp and shattering. When well wilted rake up into wind row, and if not sufficiently dry to make into cock leave in that condition for a day and then put up into cock to complete the cure. Hay, whether clover or meadow, should be cured in cock, if the best condition is to be secured, unless the weather be so hot and windy as to cure it sufficiently for the barn in a few hours, which is not often the case. Hay cured in wind row or cock will keep its fresh, green color and fine smell and the fine blades and leaves will all be saved. Nothing but experience can dictate when hay is sufficiently cured to be safely stored away in a barn; but one thing is certain, that nearly all the hay saved in the South is overdried before being stored. We would rather err on the side of storing a little too soon than leave it in the field too long. If the crop is free from rain or dew and only has natural moisture in it, it will, even if carried a little too soon, cure out in the barn into good hay. It will heat more and be a browner color, but will smell well and be eaten greedily. If, however, it be stored in the barn with rain or dew upon it it will heat and spoil and may burn up from spontaneous combustion. We have known this to happen and have seen many stacks and mows almost black when cut into after cooling. If the crop is to be stacked out of

doors put up in a large stack, rather than in a number of small ones. There is much less waste from weathering and the hay will be much better in quality.

FORAGE CROPS.

In our last issue we wrote at some length on the importance of forage crops as adjuncts to the successful conduct of every farm, and gave instructions for the proper production of these crops. The day has long gone by when the fodder produced by the corn crop was all that was necessary to carry the stock of the farm through the winter and when even much of this was wasted. Now upon nearly every farm there is need for the production of special crops for feeding the live stock, and this ought to be the case everywhere. Formerly the price of corn and wheat was usually at such a level as that the primary object of farming in the South, or rather planting, for there was little real farming, was the production of these crops and tobacco and cotton as sale crops, and for the feeding of the owner and his hands, and the production of live stock and beef, mutton and hog meat was a factor regarded as of but little moment. Now, on the average of years, the only way in which the farm can be run profitably is by the conversion of all except the wheat, tobacco and cotton crops into live stock, meat and butter products. This is as it should be, for no farm can be maintained in a state of fertility on which the products are all sold off in their unconverted condition. The use of commercial fertilizers, even in the enormous quantities which are now the rule in the South, cannot maintain fertility, much less restore to fertility land which in the past has been farmed in the manner formerly the rule in the South. The practice of this system of planting has resulted in the thousands, yea, millions, of acres of galled and wasted land, which is a characteristic of the South. The work of the present and future generations of southern farmers is, and will have to be, the restoration of these lands to more than their pristine fertility, and this can only be accomplished by the breeding, rearing and feeding of live stock on every farm. Without this adjunct the production of the sale crops of tobacco and cotton must diminish instead of increase, and the wasting of our lands must continue. It is a fortunate coincidence that the time when this change has become imperative is one in which the value of live stock has reached a figure seldom touched in the past and when the free lands of the West have ceased to be a constant menace

to the investment of capital in the live stock business of the Eastern, Southern and Middle States. The western man must now pay for the lands on which his stock graze and thus an equality of conditions has been established in the basic factor of the problem. The eastern and southern man can now go into the production of stock with an assurance that if properly conducted he can compete, with success, against the farmer of any other section and with some of the factors in the problem notably in his favor. He is nearer the great centers of population and consumption of the best than the producers of any other section, and these have enjoyed, and are likely to continue to enjoy prosperity, so that they have become capable of taking at a profit all that can be poured into them from nearby points. What the southern farmer now needs to do to ensure a share of this prosperity is to provide an abundance of feed so that he can keep up a constant supply of these products. Climatic conditions are such in the South that he can produce the feeds called for to meet the occasion for less than any other section of the country. Here he can make two crops in the year of these feeds as against the one of less value as a maker of bone, flesh and meat of the western and northern man, and he can at the same time restore and recuperate the wasted fertility of his lands. As illustrative of this, articles in this issue relate how farmers in two different sections of this State have already made and housed one crop of crimson clover hay after having used the land on which it was grown for grazing during the winter. This land can, and will, now go into corn or some other forage crop, which will make further feed for the winter and can then be followed by a winter grazing crop. We desire to see this practice become the rule, instead of the exception, in the South. Land which, in the West and North has, from climatic causes, been prevented being put into a summer crop, must postpone now until the fall before it can be seeded. Here it can be yet put into crops which will make heavy yields of the most nutritive feed that can be produced and be improved in the process for planting in fall crops. We would strongly urge that advantage should be taken of this bountiful provision of nature and that not an acre be left unseeded with some crop. The indications now are that unless we have rain quickly crops now seeded are likely to be cut short. This shortage can easily be made good in the South if proper efforts are made. Let cow peas or cowpeas and sorghum or millet be seeded as soon as the land can be got ready for them. They can be sown with certainty

of maturing sufficiently to make good long feed even up to the end of July and make a heavy hay crop, whilst rape, rutabagas and turnips can be sown in July, August and September for making fall and winter feed, and crimson clover and vetches can be seeded in August, September and October for winter grazing and spring forage and hay crops. With such a variety of choice yet available crops there can be no excuse for any farmer being short of long feed for a heavy head of live stock during the winter, and we are satisfied that the live stock to be fed on these and the grain crops of the farm can be fed profitably.

ALFALFA.

From the numerous inquiries we receive as to this crop it is quite apparent that southern farmers do not intend longer to let the men of the West have a monopoly of the profits to be made from the use of this most excellent feed. We have for years endeavored to interest southern men in this crop, but until last year with very indifferent success. We are satisfied, not only from our own experience with it, but from reports from several of our subscribers, that there is no reason whatever to doubt its success on suitable lands in this and the adjoining Southern States. Within a few miles of this city there are several large fields of alfalfa which have made excellent crops for several years. The great difficulty which has to be encountered in securing a good stand of alfalfa in the South is the weedy character of our lands. Weeds and alfalfa cannot succeed together. The first thing to be done if alfalfa is to be attempted is to get rid of the weeds. It will be a waste of seed and labor to attempt to secure a stand unless this is done. The land best adapted for the crop is a loam soil inclining to sand or gravel and with a goodly intermixture of clay. Even on a clay soil it may succeed, providing the subsoil conditions are favorable. The most important requisite in the subsoil is that it should be easily penetrable by the roots, that it should be deep and that it should be moist, but at the same time free from stagnant water at all seasons of the year. Alfalfa is a deep rooting plant and to succeed must have opportunity to send down its roots. Having selected suitable land the work of killing out the weeds should be undertaken. This may be best accomplished by giving the field a summer fallow. Plough as soon as possible and harrow finely and thus encourage the sprouting of the weed seeds. When a growth has been secured harrow or cultivate on a hot, dry day and kill out the

crop and bring up further seeds to sprout, which must be killed in like manner. Continue this work through the summer until August, when the land should be in good order for seeding, and should then have a dressing of 15 or 20 bushels of lime to the acre. Some, instead of giving a clean summer fallow, prepare well and then seed heavily with cow peas, which act as a smothering crop. The peas are cut for hay and then the surface is just lightly stirred, say, for two or three inches, with a harrow and the alfalfa is seeded. This plan has succeeded where the land is not too full of weed seeds. If the land is not in a good state of fertility it should be helped with 400 or 500 pounds of acid phosphate to the acre and the young alfalfa be given a top dressing of 100 pounds of nitrate of soda to the acre in the spring following seeding when growth is just starting. After a good stand is secured top dressing with farm-yard manure in the fall and winter will be found excellent to maintain the stand, or bone meal may be used for this purpose. The best time to seed the crop is in August or September in all the southern country east of the Blue Ridge and south of the Potomac. West and north of these limits it should be seeded in March or April. The seed—twenty-five pounds to the acre—should be sown broadcast, half being sown one way and the other half across. Cover with a light harrow and roll. The first year no crop should be taken from it, but it should be cut over with the mower two or three times during the summer, just clipping off the tops of the plants and leaving the cuttings as a mulch. In the second year it may be cut two or three times, according to growth, each cutting being made when the plants are coming into bloom. Treated in this way the crop should stand for from seven to ten years, yielding each year two or three heavy crops. It may be grazed with sheep, hogs or young cattle if desired, but is liable to cause bloat in cows and sheep. Its great value is as a hay crop, of which it makes one of the richest known and the heaviest yield.

"WORNOUT LANDS."

Editor Southern Planter:

I should like to give my experience with a piece of so-called "wornout land," and if any subscribers have any such land and will work it as I did they will find that it only wants to be cultivated well and be fed a little by sowing some leguminous crop and ploughing it in the ground to become fertile again.

I purchased a tract of land in the spring of 1902,

and at that time it was all grown up in small pines, sassafras bushes and other shrubs. I cut the pines down and grubbed the hardwood bushes out and burned the broomsedge off. Had it not been so late in the spring I should have ploughed the broomsedge down, but at that time it would not have had sufficient time to rot before I put the crop in.

After I had the land all clean I ploughed it from ten to twelve inches deep with a good two-horse plow. I finished ploughing about the middle of April and then let it lay until the 10th of May, so that it was well settled. I then ran the disc harrow over it both ways, which thoroughly cut the sod; then I dragged it level and was ready to plant my corn, and this I did about the 20th of May. I did not have any stable manure to put on it and I did not use any chemical fertilizer, for I do not think it pays on corn.

Some of my neighbors laughed at me and said I was throwing my work away, but I decided to give it a fair trial anyhow. I worked the corn well and I had a better crop even than I expected, which proves that all the so-called "wornout land" is not as bad as it is made out to be.

But when land is only half ploughed and is cropped year after year and nothing put on it, one cannot expect much. Land to produce good crops must be fed occasionally, and the best and cheapest way is with legumes and plenty of manure. Chemical fertilizers alone will not tend to improve land much, for land to become fertile must have plenty of humus in it, and this chemical fertilizers will not supply. This keeps the land open, prevents it from baking and makes it resist drought much better. When land is devoid of humus a good way to begin—if one wants to improve it—would be to sow it down in peas. Plough the land deep and harrow it well; sow about a bushel of peas per acre broadcast and if a heavy growth of vines is desired apply about 300 pounds of acid phosphate per acre. It is best not to plough the peas under until they are dry. If they are ploughed under in a green state use a dressing of lime. Crimson clover is also a very good crop to turn under as an improver. Now is a good time to lay the foundation for a good corn crop next year. The land that is not being cropped this year and is to be planted in corn next, should be sown in peas. This can be done as late as the middle of June and these can be turned under the latter part of September and the same land sown in crimson clover, which can be cut for hay about the 10th of May and the land be planted in corn by the last of the month. Plough the land deep, harrow it until it is in good order, then harrow it again, to be sure it is all right,

for land cannot be put in too good order. This process will invariably insure a good crop of corn, and if it were kept up many of the farmers who have plenty of land, but think it is too poor to work, would not have to take money out of their pockets—which they have worked hard to get—and buy feed for their stock every spring.

H. J. ROSBACH.

Hanover county, Va.

HINTS ON THE CULTIVATION OF CORN.

(A paper read before the Farmers' Club of Gloucester county, Va.)

The man who expects success as a corn raiser should begin to plan his crop long before the planting season arrives—the longer before the better.

The farmer who selects his field at haphazard about the 1st of March, and only allows himself two or three months to prepare for his crop, is in the class with the man who tries to fatten poor cattle in six weeks.

Stock men and crop farmers practice different methods of rotation, etc., so that the best mode of culture for corn will depend upon which of these two classes the farmer belongs to.

Generally speaking, the stock farmer will find it most profitable to use an old pasture field for corn. If he has fed such concentrates as oil meal, cotton-seed meal, etc., in connection with the pasture and top dressed the sod with barn-yard manure during the feeding season, he is pursuing an ideal method for raising heavy crops of corn and maintaining or increasing fertility of soil.

The cropper is a man with intensive methods. His favorite mode of preparing land for corn is to take it through a course of improving legumes, such as cow peas, Soja (soy) beans and the clovers, often depending upon commercial fertilizers to assist these nitrogen-gathering plants in their work of soil improvement.

If you want to raise corn with success and profit take at least two years in which to build up the fertility of the land where the corn is to be raised.

A combination of cow peas or Soja beans and crimson clover or rye with plenty of ploughing, harrowing and fining of the soil will always pay big returns, both in a corn crop and in permanent benefit to the soil.

In our section, where the great Bermuda grass is king, I have always practiced deep cultivation of corn, but only—and this is all important—while the corn is a small plant with little root development. As soon as corn is up so that the row can be followed

I use a double worker cultivator with four shovels, each six inches wide and thirteen inches long. With this implement I give the corn two deep, thorough workings in quick succession, tearing up Bermuda root and branch. After this I use an "Iron Age" cultivator with small teeth, keeping the surface of the ground as thoroughly stirred as possible as long as corn can be worked.

Now, a word about seed corn: Every farmer who gets hold of a heavy-yielding variety of corn that suits his soil and is satisfactory for feeding or sale, should hold on to it, raise his own seed and try to improve it, rather than to be constantly trying new varieties of seed, some of which are sure to be failures.

Seed corn should be raised on a plot of select land far enough away from any other corn to prevent mixing.

It should be planted in checks four feet each way and be carefully thinned to two stalks per hill. After the corn tassels it should be thinned a second time, all stalks that are barren or of inferior growth being cut out.

There can be no doubt to a logical mind that barren and inferior stalks, in fertilizing healthy and prolific stalks, injure the quality of the ear which they bear.

If seed corn be carefully selected and bred in this manner, put on rich, kind soil and carefully cultivated, it is sure to improve from year to year.

Gloucester county, Va.

N. S. HOPKINS.

SORGHUM AS A DRY-WEATHER CROP.

Editor Southern Planter:

We are having the driest time now I have seen for a long time. It has not rained since the night of the 3d of this month (May). During the winter and spring we had so much rain that the ground became thoroughly packed, and all lands anyway stiff are very hard and dry. We cannot plough at all, and many farmers have planted but little corn and the ground is so hard that they cannot now plough at all, consequently the time for making corn and forage is going to be very short. The spring oat crop must be a failure, which will cut us off again in forage. We will have to look around for some means to meet the coming demand for feed. I don't know of a more reliable crop for that purpose than sorghum if it rains enough to allow ploughing in the next thirty days. By planting and sowing a good lot of sorghum we may meet the demand, for it will stand more dry weather than corn and makes a better

class of forage. I have fed on it all winter and am yet feeding it and my horses are looking very well. It makes at least twice as much per acre as corn fodder. If you sow it and peas together—one bushel each per acre—it makes most excellent hay.

Henrico county, Va.

COUNTRY.

"PIGS IN THE PEANUT PATCHES"—CRIMSON CLOVER.

Editor Southern Planter:

We have often heard of "pigs in clover," but down here in Eastern Virginia we find "pigs in peanut patches" in the fall of the year. The peanut is planted in May and ploughed out in October and November, before the frost has cut the vines.

In digging it is expected that from 2 to 5 per cent., or even more, of the nuts are broken off the vines and remain in the ground.

The pig, who is as fond of peanuts as the small boy, industriously roots the ground all over for the scattered nuts and rapidly fattens on this oily food.

If killed when he comes off from the peanut patch the meat is soft and oily, and has a "peanuttty" flavor to it, which is obviated by feeding corn a few days prior to killing. If allowed to run in the peanut field from the 1st of November to the middle of December and then fed corn for a few days the pigs are in fine shape to kill, and such meat so made or fattened, is much more palatable and much healthier than the thicker, fatter, hotter, corn-fed pork of the West.

The thrifty farmer can sow a few acres in crimson clover in August, September or October and turn his pigs on the same and let them graze until the middle of April following, putting rings in their noses to keep them from rooting out the clover. Taking them off about the middle of April, the clover springs up and grows rapidly, and in twenty-five to thirty days thereafter he can plough the clover under and plant peanuts, or corn, or sweet-potatoes on the same land the same season.

I recently visited a farmer—on the 12th day of May. On the 20th day of April preceding he had taken the pigs off from the crimson clover, which was then twenty inches tall and in full bloom—growing twenty inches in twenty-two days.

This farmer saves a little strip of his crimson clover to ripen fully and then pounds out the seed for the ensuing crop and sows it, chaff and all, thus securing his clover seed at practically no cost at all; and in sowing it with the chaff he secures a better

and a more even stand than when he uses the cleaned seed from the store at \$3 or \$4 per bushel.

Ploughing under the bulk of the crimson clover crop in May he plants the land to peanuts, so that between the four and one-half months winter grazing on the clover and the six weeks fattening on the peanut crop, the pigs make good use of the land, while the owner gets a profitable crop of peanuts.

With such opportunities here, and such advantages in the way of raising and fattening pigs, it hardly seems necessary for this seaport to call upon the great West for at least 10,000,000 pounds of pork per year.

It is not only possible, but entirely practicable and feasible, to make pork here cheaper than at the West. It will not only be cheaper, but it will be healthier.

We would like to see pigs in every peanut patch and in every clover patch in Eastern Virginia.

Norfolk, Va.

A. JEFFERS.

FERTILIZERS IN A DRY SEASON.

Editor Southern Planter:

It is sometimes claimed that dry weather is fatal to fertilizers—that is, that fertilizers will show an effect only in good seasons. There is no foundation, in fact, for this idea. As a rule, fertilizers are not used intelligently. The special plant-food needs of the crop are not considered, and in a dry, unfavorable season the foraging power of a plant is greatly lessened, so that it is nearly impossible for it to make good any plant-food deficiencies in the fertilizer by searching the soil for same.

Many experiments have been made, showing the effect of a well-balanced plant-food mixture under conditions of severe drought, one of which we give here somewhat in detail. This experiment—on corn—was made by Mr. Charles H. Rogers, of Colleen, Nelson county, Va. The soil was thin, worn and sandy and with a red clay subsoil. Under best conditions no very heavy crop could be expected from such soil with such improvement as one year's thorough treatment could effect. The drought, setting in early in June, was so severe that the stalks of the crop were practically valueless as fodder, while the yield from the unfertilized soil was practically nothing, being five bushels to the acre only.

The experiment was made with three plots, one of which was unfertilized. Plot 2 was treated with the equivalent of 1,000 pounds per acre of a fertilizer testing 4 per cent. ammonia, 8 per cent. available phosphoric acid and 6 per cent. potash—a formula particularly suitable to corn on light soils.

Mr. Rogers reports that the effect of the fertilizers was noticed from the start, but was materially checked by the drought. A third plot was planted, receiving the same amount of phosphoric acid and ammonia as Plot 2, but no potash, which was left out from the fertilizer in order to show what potash would produce if added to the mixture, as in Plot 2.

The results in grain showed Plot 2 to have produced an increase of twenty bushels to the acre and Plot 3 an increase of ten bushels. This settles the question of the crop-making power of fertilizers in bad seasons. It also throws considerable light upon the quality of effective fertilizers for grain crops on thin, worn soils. By omitting potash from the fertilizer the yield was reduced nearly one-half, and this under most unfavorable conditions.

Moore county, N. C.

BRYAN TYSON.

BERMUDA GRASS.

Editor Southern Planter:

In the May issue of the *Planter* there appeared an article from J. S. Newman, South Carolina. He seems to favor propagating Bermuda grass. For my part I want none of it. It may be all right to plant Bermuda if no other crop is desired on the same farm, or adjoining farms. I had rather buy a farm matted all over with wire than one well set to Bermuda.

I suppose his way of propagation is good, except after it gets a start it would be an advantage to plough in deep with a turn plow every spring, as the more it is ploughed the better it grows. In this part of the country it pays a farmer to stop and uproot a piece of "wire grass," no matter how great his hurry.

TRUCKER.

Hanover county, Va.

We fully realize the objection of a "Trucker" to Bermuda grass. On an arable farm or in a garden we know of no greater pest, but as a pasture for stock in a hot climate it is the best that can be had and more valuable than the finest Kentucky blue-grass. There are thousands of acres in the South that ought to be covered with it and then we could graze cattle and sheep with any country in the world, and instead of galls and gullies should have a beautiful green sod in the hottest weather.—ED.

THE VALUE OF LEGUMINOUS CROPS.

Editor Southern Planter:

I send you under another cover a bunch of what is called here, a filth, "cotton top" or "woolly head" clover. Where I got the enclosed it has been grow-

ing for about nine or ten years, and nothing seems to exterminate it. I have grown two successive crops of corn on the land and for two other seasons a crop each of pea hay and crimson clover. I send it to show you the tubercles on the roots, though the plant is not yet half matured. The other is what we call "partridge pea," growing on the same land. On this plant the tubercles are very small, but more in number. Before this land took in these plants—about the time (or year after) I sowed it first to crimson clover—it was dead poor and would produce about seven and a half bushels corn. I have had it recently to yield fifty bushels per acre. I have never seen a piece of land improve so rapidly as this has done. At first I thought my "cotton top" a nuisance, but have decidedly changed my mind.

Richmond county, Va.

A. C. FISHER.

This communication strongly illustrates the importance of a knowledge of botany by farmers. These two plants—the so-called "cotton top," which is really a clover, and the so-called partridge pea, which is a vetch—are both members of that great family of legumes which are the truest friends of the farmers. All the clovers, the peas, the beans, alfalfa, sainfoin, lupines, etc., belong to this family of plants and are all capable of taking from the atmosphere nitrogen, which forms one of the greatest constituents of the air and which is in itself one of the most needed sources of plant food. This they do by means of tubercles, which form on the roots, and are the homes of microbes, which assimilate and render available this nitrogen for plant-food. Absence of this knowledge leads farmers frequently to destroy their best friends in the shape of plants, which work for them without fee or reward. No doubt thousands of acres of this so-called "filth," "cotton top" and "partridge pea" have been ruthlessly destroyed as pestiferous weeds in the South, which, if left alone, would have made these acres fertile and valuable. Their persistence in growth, notwithstanding persecution, is a wonderful illustration of the efforts of nature to clothe the earth with verdure and to make it profitable for cultivation by man. Like "dirt," which has been defined as being "simply matter out of place," plants of this character are sometimes troublesome in other crops, but their natural growth ought to be encouraged by utilizing the land for such crops as those in which their persistence will only enhance the yield and quality of the crop, like the grasses, clovers and other forage crops. When, by the continued production of these crops, the land has been filled with humus and fertility, then it may profitably be brought again into cultivation for other crops like corn, wheat, tobacco

and cotton, and these be grown in a proper system of rotation with the clovers, peas and beans, and thus the fertility be maintained.—ED.

ENQUIRERS' COLUMN.

Enquiries should be sent to the office of *The Southern Planter*, Richmond, Va., not later than the 15th of the month for replies to appear in the next month's issue.

Covering Cow Peas—Cow Peas and Corn.

Please let us known how cow peas should be covered when sown broadcast. Simply to say sow broadcast is very indefinite to us folks up here near the mountains, where such things have never been cultivated. Let us know if oats or corn could not be sown with cow peas to advantage as a forage crop for hay. I see one of your writers on this subject advises planting cow peas in each hill of corn. If you think this is advisable, please give variety best suited for such planting. Would it either help or injure the corn crop?

W. L. RICHARDS.

Fauquier Co., Va.

When sown broadcast cow peas should be covered either by harrowing or by working them in with a cultivator. A cultivator makes the best work, especially a Disc cultivator.

Corn may be sown with cow peas, but we prefer to use sorghum as making a beter hay feed. In this issue you will find information as to sowing cow peas with corn for silage or fodder.—ED.

Lettuce Growing.

I want to ask you a few questions about lettuce growing. I want to plant in fall for late winter and early spring shipping. When ought I to sow seed, and what kinds are best? How much fertilizer should I use to the acre, and how much seed must I sow?

TOM E. PERSON.

Wayne Co., N. C.

The lettuce seed for providing the plants for the winter crop should be sown about the middle of September. Sow on a rich, fresh bed and as soon as the plants are big enough to handle they should be set out in frames, if wanted for a very early market, or in the open ground for the spring market. The soil in which they are set out should be well worked, and be made rich with a fertilizer having about 6 per cent. of ammonia, 4 per cent. of phosphoric acid, and 8 per cent. of potash. This may be made of 300 pounds of nitrate of soda, 800 pounds of cotton seed meal, 600 pounds of acid phosphate (13 per cent.), and 300 pounds of muriate of potash to make a ton. Use about 700 to 1,000 pounds to the acre. As let-

tuce seed is very fine and light, an ounce or two of seed will grow a great quantity of plants. The best varieties for the winter crop, when grown in frames, is the Boston Market. For the open ground the best variety is All-the-Year-Round. When grown in frames the plants should have plenty of air given at all times in the day when the weather is mild, but be closed at night.—ED.

Cough in Hogs.

What is good for hogs that cough a good deal?
Warren Co., Va.

W. S. WEAVER.

Give the hogs some linseed oil in their food, say, half a pint for each hog. Follow this with half a teaspoonful of nitrate of potash for each hog in the drinking water once or twice a week.—ED.

Cress Salad.

I should be greatly obliged if you can give me some light on how to kill cress salad. I have a forty-acre field in wheat that is over three-fourths salad, and where the salad is there is very little wheat and in some places not any at all. If I fallow this land deep in the fall so as to cover up the seed several inches, will this prevent it from coming out in the following spring? Please give me some information and suggest a remedy.

THOS. B. DAVIS.

Greene Co., Va.

As soon as the wheat is harvested plough the land, turning a thin furrow, and then harrow and clean off all the weeds and trash which works on to the surface, and either burn or carry it to the barn-yard to make manure. This should get rid of the cress plants before the seed has ripened. Then to rid the land of the seed already in the soil work over with the disc cultivator and induce the seeds to germinate, and as they do so kill the plants out by harrowing on a hot day. Repeat this several times during the summer and you will get rid of the trouble. To wait until fall before attacking the pest is simply to give it the opportunity to make and fill the land with more seed, which sooner or later will come again sufficiently near the surface to germinate and trouble you again.—ED.

Veterinary Colleges.

Will you please, in your next month's *PLANTER*, state which are the best veterinary colleges in this country and Canada, and what the expenses would be, and the length of time it woud take a man to graduate; also the best hospitals where a man can work after leaving the college.

M. WISE.

Accomac Co., Va.

We are not able to give you the information asked.

There is a good college in New York and one in Canada, but we do not know the address of either. If you would write the President of the Agricultural College, Ithaca, N. Y., and the President of the Agricultural College, Guelph, Ontario, Canada, these gentlemen would no doubt give you the information you seek.—ED.

Cow Peas as Improvers—Compost.

1. I have a piece of land, about two acres, that is very poor; would not bring more than four or five bushels of corn per acre. Would it pay to sow the same to cow peas, using an 8-2-2 fertilizer, say 500 pounds per acre; the vines to be turned under next fall and the place seeded to oats and grass?

2. Where can I get a book on intensive farming and truck gardening?

3. I can get any quantity of pine mould out of which to make compost, which is the best way to handle it? Haul it out during fall and winter and spread broadcast on the land, with lime spread over that and turned under, or pile it up about on the land in a layer of mould and a layer of lime and let lay all winter, turning at times, and then broadcast during spring and turn under?

A SUBSCRIBER.

Mecklenburg Co., Va.

1. Yes. It would undoubtedly pay, but we would apply 400 pounds of acid phosphate to the acre, instead of the mixed fertilizer. It would cost less and be more effective. Turn the vines under after they are dead, and not when full of moisture.

2. We can supply you with Robert's book on the Fertility of the Land, which teaches how to make the land rich and thus permits of intensive farming, and Oehmller's book on truck crops. The price of the first is \$1.25 and the second \$1.00.

3. Spread the woods mould on the land broadcast and the lime on this and then plough both under. No advantage is gained by mixing and composting them.—ED.

Sheep Sorrel—Sheep.

1. Will sheep eat sheep sorrel?
2. What are best methods of killing it?
3. Will Angora goats eat paw-paw, yellow dock or sheep sorrel?

4. What breed of sheep do you think best adapted to this section, one which will produce both wool and mutton? How about the Dorsets?

Lee Co., Va.

T. M. KING.

1. No, not unless pinched hard with hunger.
2. Make the land rich, so that better plants will grow on it and crowd out the sorrel. It is an indication of poverty of soil.

3. Goats will eat almost anything, but we cannot say positively that they will eat these weeds. They do seem, however, to prefer weeds to grass and clover.

4. We think Shropshires would do better in your section than Dorsets, and they would give more mutton and wool. Dorsets are pre-eminently winter lamb raisers.—ED.

Plants for Name.

Enclosed find two plants I found growing in front of our home. You will please state what they are; what kind of land they grow best on, and where I can secure seed for the same. I admit I do not take the PLANTER, but I hope this will not cause you not to publish this, for I read my friends'. I assure you it will be greatly appreciated..

Lenoir Co., N. C.

W. CLOSS WEST.

We cannot identify the plants from the two sprigs sent. To enable us to do so we must have the whole plant, root and flower. One appears to be some kind of clover, the other we do not know at all. We think enquirers might at least take the journal, when it only costs 50 cents a year, before asking us to give them information. It would only be a small recompence for our labor.—ED.

Crimson Clover.

Will you be so kind as to inform me, through your paper, what time to sow crimson clover? I have just read a letter in the PLANTER from C. F. Day, in regard to crimson clover as being a good fertilizer as well as for grazing. I live in Eastern North Carolina, and we don't sow anything of the kind. I have some sandy land that will make from 15 to 20 bushels of corn per acre, and would be glad to improve it by sowing clover, if you think that kind of land will grow it.

R. C. MORTON.

Onslow Co., N. C.

The land you describe will grow crimson clover. Sow the seed at any time from August to October at the rate of fifteen pounds to the acre if seeded alone, or if in mixture with oats or wheat, which we advise, at the rate of ten pounds of clover and half a bushel of grain. Sow broadcast and cover with a light harrow.—ED.

Gasoline Engine.

Will you kindly advise me, through your columns, as to what you think of a 2½ H. P. gasoline engine being sufficient to run a 24-inch wood saw and a No. 11 Cyclone feed cutter? The engine I have reference to is the Weber Engine. Do you think I could run either machine to fair advantage with 2½ H. P. engine? Would said engine give as much or less power

than five horses on sweep power? The manufacturer fits this engine with 8-inch drive pulley. Now, what effect would it have on the driving power of engine to fit it with a 14-inch pulley? I want just as cheap an engine as I can get to do my work, as it will have to stand idle most of the time. I just want it for my own use, and not to do custom work.

Durham, N. C.

J. THOS. HICKS.

We doubt very much whether a two and a half horse-power engine will do the work you describe. The nominal power of a gasoline engine is practically its actual power and not, as is the case with a steam engine, only about half the actual power. A three horse sweep horse-power would not run the machines you mention. You should have at least a four horse engine. Increasing the size of the driving pulley would not give you more power. A large fly-wheel on it might help, but this would be straining the other parts of the engine. Get a guarantee from the maker when you purchase, that the engine you buy will drive the machines you name.—ED.

Asparagus Growing.

Will you kindly give me full and complete instruction as to the best manner and mode of putting out, handling and marketing an acre of asparagus on good land, well drained, and mellow? Would you advise white or green asparagus for the Washington market, and what variety would advise planting? What is an average crop per acre?

X.

Westmoreland Co., Va.

The rows should be set out six feet apart across the field. Take a plow and throw out as deep a furrow as possible in the line of the row. Then break the subsoil and throw it out on the opposite side of the row to that on which the surface soil has been thrown. Clean out the furrow well so as to make the bottom of the row at least eighteen inches below the surface. Then take some of the surface soil and fill into the row to the depth of six inches. If this soil is not fairly rich it should have some bone meal and cotton seed meal mixed with it, say, 300 or 400 pounds of each to the acre. The rows are now ready for the plants. These should be 2-year-old plants and should be set out eighteen inches or two feet apart in the row. The plants should be put out as soon as received from the growers, as they are very susceptible to injury when kept long out of the ground. Cover the plants as they are set with two or three inches of the surface soil and make them firm in the rows. The soil taken out of the bottom of the row should then be spread over the land between the rows. This work of planting the bed should be done in the early spring, say,

March or April. Nothing further need be done to the crop until fall, beyond keeping down all weeds. In the fall after the stalks have matured cut them off and burn them and cover each row of plants with a heavy mulching of farm-yard manure. Let this lay all winter and then in spring cover this with two or three inches of soil and work the land between the rows and keep the whole field clear of weeds during the summer. No crop should be cut the first year after planting. In the fall clean off the stalks and again cover with manure and soil. In the early spring work the land over the rows and between them fine and cover the rows with a foot of soil. This will give you white asparagus, which is that mostly called for in the markets. The shoots should be cut with a long-bladed knife as soon as the tips come through the soil. Put up in bunches of fifty. A machine is sold for bunching asparagus, which can be had from implement dealers and hardware merchants. If green asparagus is desired do not cover the bed with the foot of soil and let the stalks grow until long enough for bunching before cutting. There is very little, if any, difference between two or three of the principal varieties as to quality or yield. Either Conover's Colossal or Palmetto are good varieties. The crop depends mainly on the richness of the land. We saw the other day that a grower in the neighborhood of Charleston, S. C., had this year made a clear profit of \$5,000 from 100 acres of asparagus.—ED.

Barn Building.

I ask for advice in reference to building a barn. I recall seeing in a recent issue of the *PLANTER* a reference to a barn of modern construction, in which no heavy timbers were used, the heaviest being only two inches in thickness. I have never seen a building of this kind, and would like to know something of it. I would be glad if the editor or any of the readers of the *PLANTER* would advise me after I have made known my wants. I want a barn to accommodate six head of horses and twice that number of cattle, with ample room for forage and small grain crops. I have a fairly good crib for corn, but would like to have at least one small room for corn. If possible, I would like to have a sixteen feet ground space or circle on which to erect a Wright horse power, to run my cutting knife and pea thresher. I also want to use, as far as possible, the timbers of my old barn in constructing the new one. The dimensions of my old barn are as follows: 30 feet long x 24 feet wide, length of studding, 12 feet. A passageway 10x24 feet runs across the barn. The comb of roof runs with the length of barn; rafters cut by a square mitre. Across the ends and one side there is

a shed ten feet wide, length of studding under lower plate, 8 feet. These sheds are weatherboarded and have a loft six feet from the ground. The body of the barn is divided into six stalls, three on each side of the passage. The timbers and weatherboarding of this barn are pretty good, but the roof is rotten. I am not wedded to a barn of any particular kind or pattern, but have thought I would like a square or octagon shape or pattern. I would like a narrow walkway around the stalls for convenience in feeding, where the grain or feed boxes could be constructed and where the forage could be thrown from the loft within reach of the stock. I have not decided whether to cover with shingles or some of the various patented roofing materials on the market. Would like to be advised on this point. I would like for the building to be as inexpensive as possible, with all the conveniences that can be had at a small outlay in cost.

H. Q. ALEXANDER.

Mecklenburg Co., N. C.

Mr. Joseph E. Wing, of Mechanicsburg, O., has published a little pamphlet giving full instructions for building the frame barns referred to. Send for copy. We can supply a book on Barn plans, containing a large number of illustrations of barns and other farm buildings, which would probably enable the enquirer to decide upon the one he needs. The price is \$1.00. We shall be glad if any of our subscribers will give the enquirer the benefit of their experience in barn building. If plans are submitted we will publish same.—ED.

Broken Cow Peas.

With cow peas threshed in a grain separator is there any way by which the broken peas can be separated from the whole ones? Is there a market value for broken peas? When 25 per cent. of the peas are broken, what is their relative value compared with whole ones?

X. Y. Z.

Westmoreland Co., Va.

By running the peas through a fanning mill and carefully regulating the blast the broken peas can be separated from the whole ones. The damage has been done by running the separator too fast. We believe that feed dealers buy the broken peas, as we know they often have them on sale for chicken feed. We could not undertake to place a value on such a sample. Submit same to a dealer.—ED.

Teocinte.

"Subscriber" desires further information as to teocinte. Is it a sorghum or a grass?

Teocinte is a tropical or semi-tropical grass. It

makes a heavy yield of forage, growing much like corn, but stools heavily from the root when cut and thus can be cut a second time. It will not mature seed north of the Gulf States nor make a crop of feed north of the James river. It is excellent for cutting for green feed and can be cured like corn fodder.—ED.

Japan Clover.

There is considerable pasture of Japan clover in this locality, and people here are largely of the opinion that it is good to stay and of advantage in fattening cattle on poor land, but that it is not milk producing and will run a cow dry if kept much upon it. My two cows, Jersey and Devonshire, got in fine fix upon it last summer, but failed rapidly in their milk. Was the Japan clover the cause? They had a very light feed of meal and wheat bran at milking, not housed until late fall. Devon was a stripper, Jersey was fresh in July with her third calf. Pray oblige by reply in next issue of paper.

Transylvania Co., N. C. A SNBSRIBER.

We have never before heard any complaint as to Japan clover being unsuitable for milch cows. On the other hand, we have heard a number of farmers who keep large herds of milch cattle speak highly of it. The composition of the plant as disclosed by analysis is almost exactly the same as red clover, and, therefore, it may be presumed to be an excellent feed for either milk or meat making.—ED.

Hen Manure—Prevention of Lice in Hen Roost.

1. I want to know the manurial properties of hen house dung. How much is it safe to apply, especially in a garden?

2. I have a chicken, hatched blind, what can I do for him? My prevention for mites (lice) on fowls in fowl houses is simple. I have tried it with good results for two years. I use sasafras poles, unpeeled, for roosts. The lice avoid these. I have never seen a chicken louse, though mites are in abundance and mighty annoying.

JAMES JOYNE.

Berkley Co., S. C.

1. Hen manure (fresh) contains 1.10 per cent. of nitrogen, 0.56 per cent. of potash and 0.85 per cent. of phosphoric acid. Horse manure contains 0.44 per cent. of nitrogen, 0.35 per cent. of potash and 0.17 per cent. of phosphoric acid. A ton of hen manure would contain about 22 pounds of nitrogen, 11 pounds of potash and 17 pounds of phosphoric acid. A ton of horse manure contains about 9 pounds of nitrogen, 7 pounds of potash and 3 pounds of phosphoric acid. The hen manure is, therefore, as

you will see, more than twice as valuable as plant-food as horse manure and is better balanced, though still has nitrogen in excess. Knowing these proportions and having this comparison you can judge for yourself as to how much you should apply. The effect of a good supply of nitrogen in a fertilizer is to stimulate leaf and stalk growth, hence nitrogen is valuable in a garden fertilizer, as it forces rapid growth of the leaves and stalks of the vegetables. The phosphoric acid in a fertilizer conduces to the formation of seed and fruitage, whilst the potash is mainly valuable as improving the quality of the seed and fruit.

2. It is very doubtful if you can do anything for the chicken, and unless it is of a valuable pure breed it is not worth the attempt. We have known a case where the eye itself was perfect, but the lid had no division. In this case, when the lid was cut across from side to side, the chicken could see. If, however, when the lid was cut the eye itself was found defective no good would result. What you call mites are lice.—ED.

Cow Peas in Corn.

I would like to have your advice as to whether or not it will pay to sow peas in a corn field when worked the last time at \$1.25 per bushel, to gather for peas and to improve the land?

Pittsylvania Co., Va. T. J. HUBBARD.

Yes. We have always advised this course and believe the advice sound. The peas are worth all they cost as improvers of the land.—ED.

Cement Walls for an Ice House.

Please state if a cement wall would be better in an ice house than one made out of wood.

SUBSCRIBER.

Yes; cement makes an excellent wall for an ice house. It maintains a more equable temperature and will last forever.—ED.

Moisture stored in the soil seems to do the crops more good than when it falls as rain during the growing season. This indicates that it is desirable to get the ground thoroughly moist and then cultivate it so as to conserve this moisture.

When corresponding with advertisers, kindly mention the *Southern Planter*.

THE GROWING BUDS AND GRAFTS.

Buds of apple, peach, cherry, etc., which were put on in budding time last fall, will now be beginning growing if the work was successful. But sprouts from the stock (which, of course, was cut off two or three inches above the bud in March) will also be growing; and these latter, being in perfect connection with the stock will attract the life-giving sap largely to themselves, and rob the bud. Attention will be needed from time to time, in order to prevent this. These sprouts must be broken off every week or two, taking special care not to injure the bud in the operation. Frequently there will be six or eight sprouts above and below the bud, completely hiding it from sight, and without watchfulness the bud may be broken off and all the previous labor lost; and worse than this, there may be the loss of the only living bud of the particular kind—some new variety perhaps, obtained with much trouble and expense; as has occurred more than once.

The only safe plan is to look the bud up the first thing, before breaking off a single sprout; then by keeping an eye on the bud, and handling carefully, it will not be injured.

Sometimes the work is overlooked until the sprouts are three or four inches long, in which case it might be too much of a check to the tree to take all off at once. The best plan would be to take off all that are above the bud, on the stub (as the stub is to be cut off in July), and pinch off an inch or two of the points of those below the bud; then at the next sprouting (in a week or ten days) all the sprouts can be rubbed off, leaving the bud in full possession.

Grafts set in spring will require the same care: only the sprouts will be less numerous, though hardly less injurious.—R. J. B., in *National Stockman*.

HALF-DONE WORK IS ALWAYS WASTEEUL.

The extravagance and waste of doing work badly are most lamentable. We can never overestimate the value, in a successful life, of an early formed habit of doing everything to a finish, and thus relieving ourselves of the necessity of doing things more than once. Oh, the waste in half-done, careless, patched work!

The extravagance and loss resulting from a slip-shod education is almost beyond computation. To be under the necessity, all through one's life, of patching up, of having to do over again, half-done and botched work, is not only a source of terrible waste, but the subsequent loss of self-respect and life is also very great.

Trucking, Garden and Orchard.

WORK FOR THE MONTH.

June is one of the busiest months in the year for the trucker and gardener. The shipping and marketing of the fall and early spring planted crops, the cultivation of the later planted crops, and the planting and cultivation of the crops to ripen in the fall must all proceed at once, and if any of these are neglected loss must ensue. In addition to all this work, where strawberries, raspberries and other small fruit are grown, these are now ripe or ripening, and must be gathered and marketed.

When shipping fruit or vegetables to market, see that care is taken to have them cooled off before erating and eull them closely so that the crop may be ereditable to the grower. Keep the different grades of fruit and products separate, and mark each shipment "first," "second" or "culls," as the case calls for. In this way much better pries can be realized. See that all baskets, erates and packages are clean and the products packed in them attractively. More than one-half of the profit may be easily lost by neglecting these points.

Succesional crops of beans, peas, corn, melons, canteloupes, cucumbers, squashes, peppers, tomatoes and egg plants should be set out and the earliest planted ones should have frequent cultivation to stimulate their growth and keep down weeds. The hot, dry weather we have had in May has largely hindered growth, and only repeated cultivation can save the crops unless we have rain. Keep the ground covered with a mulch of some kind. A dry dust mulch is as effective as any. As soon as we have rain a dressing of nitrate of soda, say 150 pounds to the acre, will infuse life into the crop again, and set it to growing. Apply when the plants are dry, broadcast. A vigorous, quick growth will tend to prevent damage by insects, and in this way nitrate of soda acts as an insecticide.

Look out for potato bugs, and see that they have a good dressing of Paris green before they have injured the crop. If there are any indications of blight on the Irish potatoes give them a spraying or two with Bordeaux mixture. Even if no blight be seen, the spraying will be of advantage. In an experiment made last year in New York State, spraying seven

times with Bordeaux, at a cost of about \$10 per acre, gave an increased yield of $123\frac{1}{2}$ bushels of potatoes, and three sprays increased the yield $98\frac{1}{2}$ bushels. Where both the early and late blight were absent from the crops on Long Island, spraying seven times gave a gain of 45 bushels per acre, and spraying three times, a gain of $7\frac{2}{3}$ bushels.

When setting out tomato plants, plant a hill of corn every few yards. The worms will take the corn before the tomatoes, and when on the corn it can be pulled and fed to stock, and thus the tomatoes be saved from injury. Mustard sowed between the rows of cabbage and other plants of the same family will save them from the attacks of terrapin bugs. These will crowd on the mustard, which can then be destroyed by sprinkling with kerosene. Melons and cantaloupes can be largely saved from the attacks of the melon louse by dusting them when wet with bone meal.

Cucumbers for pickles should now be set out. There is a large demand for this crop, and it is usually a profitable one. Plant them in hills 3 or 4 feet apart, and fertilize liberally with a fertilizer having about 5 per cent. ammonia, 7 per cent. phosphoric acid, and 8 per cent. potash. The cucumbers can be put up in brine as picked, and then be sold when all the crop is gathered, if not near enough to a market to sell as picked.

Harvest the fall planted onions as soon as they ripen. Pull and leave on the ground until dry, then cut off tops and sell at once. They do not keep well, but usually sell well before the spring planted crop comes on the market.

Old strawberry beds, if not intended to be plowed up and new ones planted, which is best after the second year, may be renovated by mowing off the foliage and burning it, thus destroying all insects and blight. The rows should then be barred off with the plow, and the plants be thinned out with the hoe, and all weeds be destroyed. Then plow back the soil and cultivate the middles.

Celery seed may be sown during this month for plants to set out in July and August. Make the bed

fine and rich, and let it be in a moist, cool location. Sow the seed thinly, rake in and water, and then cover with brush or mats to keep in the moisture. It is slow to germinate usually and often fails altogether unless kept shaded and moist. When germinated gradually remove the shading.

ORCHARD AND GARDEN NOTES.

Editor Southern Planter:

Strawberry vines will need much attention this month. All runners should be kept in the row, so that room for cultivation between the rows will be available. After the crop of fruit is gathered the leaf rust is apt to do serious damage. If this disease should be found doing serious damage it is a good idea to mow off the old foliage and when it dries place a few leaves or straw over the bed and burn everything. The fire will injure some plants if the ground is dry, hence it is better to burn when the ground is moist. After this burning the ground should be well cultivated. New, vigorous foliage will soon come up. This foliage should be sprayed with bordeaux mixture to prevent the leaf rust appearing again.

The raspberry canes will need attention also this month. Pinch the ends of the young canes off so that they will branch and be more stocky. We like for the canes to grow about three feet high.

It is quite probable that a large per cent. of the apples will have to be thinned this year to make the fruit large and fine. If the trees overload themselves this year they are not likely to bear a good crop next year. But thinning will be a difficult job on many of the large, tall trees. There will be many water sprouts come out on the younger trees. These should be looked after closely.

Keep the cultivators going in the orchard and garden. The trees will need much moisture to mature their fruit. If grass and weeds come up they should be mowed off closely. None should be allowed to ripen seed.

I notice in many instances where cow peas are sowed in the orchard the vines are allowed to climb up on the young trees and do great damage. If dry weather should continue all such crops should be mowed and let fall upon the ground to make mulch.

Plants should be set out for fall and winter cab-

bage. This is the most important crop of cabbage for the farmer. Many times the plants are set too early in the season for this crop, and the winter cabbage frequently rots or is seriously damaged by the heads bursting in the early fall. Of course, this can be partially prevented by loosening the roots of the cabbage in fall, but the best plan is not to plant the fall crop too early.

Since the last issue of the Planter was published I notice that the Board of the Virginia Polytechnic Institute has asked for \$20,000 to build and equip an Agricultural Building for the Departments of Agriculture, Horticulture and Veterinary Science. Such a small amount put into such a building for the State would be a shame and a disgrace—\$50,000 would be little enough. I have helped to erect and equip a building for the Departments of Agriculture and Horticulture at an Agriculture and Mechanical College which cost \$34,000. Even then we did not have enough. It must be remembered that such a building is to be used for two widely different kinds of work—for teaching and for investigation. The college work will run nine months and the station work twelve months. We do not want to see this work placed in the background any longer at this institution. We do not want the "play of Hamlet with Hamlet left out." The equipment for agriculture and related branches should be the best of all the technical branches, as was originally intended when the colleges were endowed. It is utterly useless to try to attract students to such a course with a poor equipment, and a good equipment is necessary for good station work as well.

There is much room for needed improvement along these lines. We are sorry to see the small sum of \$20,000 asked for to build and equip a building for the most important industrial interests of the State. Broader ideas in the minds of those who think such a small sum sufficient to represent such important interests are sadly needed. We hope such a small sum will never be appropriated. Fifty thousand dollars is small enough.

R. H. PRICE.

Montgomery county.

PLANTING TREES WITH A CROWBAR.

The Stringfellow Method.

Editor Southern Planter:

New discoveries have been made in modern times in the use of steam and electricity and in the practice of agriculture and the mechanical arts; so it will

not do to say the Stringfellow "new horticulture" is a humbug and a folly. New and valuable things have been discovered, and, according to Wendell Philips, many of the old arts have been entirely lost.

Some able, experience orchardists have become converts to the Stringfellow method of tree planting, and Mr. S. himself is, no doubt, a very intelligent gentleman. Mr. M. Crawford, of Ohio, says: "If the new horticulture is sound, and it certainly is, the sooner fruit growers find it out the better." Mr. Hitchings, another experienced orchardist, has adopted the system, and I understand that Mr. H. W. Collingwood, the editor of the *Rural New Yorker*, has planted nearly 1,500 trees by this method and says his success has been so great he would never plant trees any other way.

Some trees, like the willow, will grow from a piece of the limb stuck into the ground, but I know from trial that they will grow quicker when small trees are planted with their roots left on. Everybody knows that a large tree will not grow when transplanted, except it is taken up with a great ball of earth containing most of its roots. There are two modes of doing work practiced in this world. The one is to do it extremely well and the other is to only half do it. Work well done always pays the best in the long run.

The endeavor to save labor is all right, provided the less labor produces just as good results; but this is the question in dispute.

Every intelligent farmer knows that to raise large crops of grain, grass, vegetables, flax, hemp, cotton or tobacco the ground must be prepared by ploughing, harrowing and rolling to make it as mellow as possible before planting, so that the roots of the plants can penetrate it easily and quickly in all directions, embrace the fine particles of soil and extract the nourishment the plants must have to grow luxuriantly and produce good crops. There is no plant or herb we can think of that will not grow and produce better in a well prepared soil than in unploughed ground. Corn has been raised on the prairies by chopping through the sod with an axe and planting the seed, but the planter only raised a meager crop. He did not expect much, and was not disappointed. If the roots of all plants of which we have knowledge thrive best in a mellow soil, why not the roots of fruit-trees? Have they any miraculous power not shared by the roots of other growing things to penetrate a compact soil, made more solid by the jabbing of the crowbar to make the hole for the tree's insertion?

They tell us of a case where a cherrystone was

dropped into the crack of a big rock and grew, it was watered and the roots spread and split the rock itself. Was there not a great waste of energy in making those cherry-tree roots split the big rock? How much quicker and farther those roots would have extended in a mellow soil, and how much quicker the tree would have grown and produced fruit? The Stringfellow converts admit that for the first two or three years the growth above ground of the Stringfellow trees is quite inferior to those planted in the old way. Some orchardists who tried the new method, owing to the slow growth of the trees, became disgusted, pulled them up and threw them away.

A soil made mellow by ploughing or spading will absorb and retain more of the rain water for the support of the young tree in dry weather than when planted in solid ground.

The efforts of wise farmers have always been to get their young stock growing fast at the beginning of life and to keep them growing. They also strive to have their plants and trees start off vigorously at the commencement of existence. Mr. Crawford says: "At the time of planting, the top and roots should be cut back, reducing the tree almost to a cutting." Certainly, if the roots are cut off the top must be also, but that seems like barbarous treatment. The experience of the world in all ages has been against this Stringfellow method. Analogy opposes it, reason condemns it, but nothing will convince these men that the method is wrong so long as the trees *will grow*.

Trees strive very hard to live. The Chinese dwarf small pine-trees by constantly cutting off their roots until they are willing to grow in a flower pot, like house plants. If only allowed to live, they are willing to live without growth. This is not the way pine-trees should be planted to make ship masts and lumber.

J. W. INGHAM.

FRUIT PROSPECTS IN VIRGINIA.

We have received the following reports from orchardists in this State as to the prospects for fruit:

The out look for fruit in this section (eastern slopes of Blue Ridge in Albemarle county) at present date is that a far larger quantity of peaches escaped the frosts in April than was at first expected, the set now shows early varieties, a very heavy crop, so much that in many cases the trees have more than they can properly bear. All varieties ripening up to end of July are set heavy. August peaches (Elberta, Mountain Rose, etc.) suffered more, but there are no trees

without peaches. October peaches, such as Bilyeu's Comet, are well set, in some of the more sheltered orchards there are large crops throughout. Pippins show for a good crop, have set well and are sticking. Red apples in many cases appear to be dropping considerably, at present Winesap indicates to average half a crop, Limbertwig, Ben Davis, Winter Cheese, etc., are well set in some, and very short in other orchards. York Imperial seems to have failed. There are lots of summer apples. Practically no cherries escaped. No pears, a fair crop of plums, the more delicate Japan varieties, such Abundance, Burbank and Wickson have failed, but there are good crops of Red June, Wild Goose, Ogon, etc. Strawberries, all the blooms out at time of frost were killed, but later blooms are ripening a heavy crop.

Albemarle Co., Va. WALTER WHATELY,
Secretary State Horticultural Society.

Very conflicting reports of the condition of the fruit are given. As far as I have been able to investigate myself, I think in our section there will be half a crop of peaches, very few pears and cherries, the largest winter apple crop we have had for years, too many on the trees. The earlier apples are not so heavy. Japan plums light, hardier varieties and damsons very heavy.

President State Horticultural Society.
Albemarle Co. Va.

Replying to your favor of recent date, inquiring as to prospects for fruit in this section, I will say that there are a few peaches and plums, a good crop of damsons. Of the apples, early varieties are a failure—Winesaps a light crop and Pippins a full crop.

W. H. BOAZ.

Albemarle Co., Va.

There will be a full crop of apples, both summer and winter. About one-fifth of a crop of peaches; some cherries; no pears, and about half a crop of European plums; scarcely any Japan plums.

Roanoke Co., Va. A. M. BOWMAN.

Your favor of the 12th May to hand, and will reply by saying the apple bloom in this section of the Valley of Virginia is very heavy, and the prospects for a large crop of apples is very encouraging. This year will bring into bearing many fine young orchards that have never produced a crop before. The acreage of young orchards is large in our valley, and in a few years Angusta will stand first on the list as an apple growing county in Virginia. The York

Imperial grows here to perfection, and many young orchards are set entirely with this variety. All stone fruits have been destroyed with us. We may have some few pears. The strawberry is only a half crop.

Augusta Co., Va.

DAVID O'RORK.

In reply to your favor of a recent date, I would say I have not written sooner as I was making inquiries as to fruit prospects. I find on investigation there is almost an entire failure of cherries, plums, pears and quinces. Strawberries were killed in the first blooming, and the dry weather has caused the later berries to dry up. The peach crop is a general failure. Albemarle Pippins are holding on here in most cases, though there was not a full bloom, and the crop will be much smaller than usual. We had a fine Winesap bloom, but few appear set, and I have never seen less of this variety. In fact, the crop of winter fruit is small. I have a small orchard of Fall cheese apples that yields from 350 to 400 barrels the regular apple years, which won't yield five barrels this year, and I never saw the trees in finer condition and a fuller crop of bloom. On the morning of April 5th, at 7 o'clock, the mercury was down to 20 degrees, and this is what destroyed our fruit.

Albemarle Co., Va.

M. L. McCUE.

Complying with your request in regard to the fruit prospects of our section, I will say that strawberries are looking fairly well, but are beginning to need rain, and unless it comes soon they will be cut short. Peaches are almost an entire failure, buds having been killed in February, very few pears, fair crop of plums, cherries mostly killed, but the apple promises to be the heaviest crop in many years. Trees are loaded and no sign of any blight at all.

Pulaski Co., Va.

W. W. OTEY.

All peaches, pears and plums killed or nearly so. Crop of apples for this county will be an average one. My own orchard of 4,000 trees is very full; have had fine, dry weather for spraying.

Patrick Co., Va.

J. H. RANGELEY.

Your favor of the 12th instant addressed to me at Roanoke reached me at my farm at this place. For my own orchards, I will say that Pippins, Cannon's Pearmain, Smokehouse, Pryor, have set a good crop of apples. Winesap, Ben Davis, Johnson are less full, but these last are young, and not in full bearing. Keiffer has very little fruit. Bartlett has done fairly well. Plums are full, and there some cherries, but peaches very rare. Trees growing well. I did some

spraying and hope that the apples will not fall off as badly as they usually do. The general report is that there will be a good crop of apples.

Franklin Co., Va. JOHN R. GUERRANT.

Your favor of the 12th instant to hand and contents noted. In reply would say that the severe freeze that visited this section the night of April 4th about killed the peaches, cherries and other small fruits. I have a twenty acre apple orchard—Ben Davis and York Imperial apples. Many of these trees are full of apples now. But we are having a very severe drought, only one rain having fallen for a month. If this drought continues much longer many apples will fall off the trees before ripening, and the present prospects for a large crop will be greatly diminished.

E WICKHAM BYRD.

Clarke Co., Va.

BUDDING TREES.

Editor Southern Planter:

In the next issue of your valuable paper please give a minute description of budding fruit, such as peaches and cherries; also the care of the buds from the original to the new stock; also the time of year for the work.

FARMER.

Bedford Co., Va.

Budding consists in introducing the bud of one tree with a portion of bark and a little adhering wood beneath the bud of another, and upon the face of the newly forming wood. It must be performed while the stock is in a state of vigorous growth. An incision is made lengthwise through the bark of the stock, and a small cut at right angles at the top, the whole somewhat resembling the letter T. A bud is then taken from a shoot of the present year's growth by shaving off the bark an inch or an inch and a half in length, with a small part of the wood—directly beneath the bud. The edges of the bark at the incision in the stock are then raised a little, and the bud is pushed downward under the bark. A bandage of bass, corn husk or other substance is wrapped round, covering all parts but the bud. The pressure should be just sufficient to keep the inserted portion closely to the stock, but not such as to bruise or crush the bark. The shoots containing the buds should be cut when so mature as to be rather firm and hard in texture. They are usually in the best condition after the terminal bud has formed. To prevent withering, the leaves must be immediately cut off, as they withdraw and exhale rapidly the moisture from the shoot. About one-quarter of an inch of the footstalks of the

leaves should remain to serve as handles to the buds whilst inserting them. When by growth of the stock the bandage cuts into it, usually in ten days or more, it must be removed. The bud remains dormant till the following spring, when the stock is cut off two inches or more above it before the swelling of the bud. All other buds must then be removed and all the vigor of the stock or branch thrown into the remaining bud, which immediately commences a rapid growth. The essential requisites for success in budding are first, a thrifty, rapidly growing stock, so that the bark will peel very freely; secondly, a proper time, not so early that there will be too little cambium or mucilaginous cement between the bark and the wood for the adhesion of the bud nor so late that the bark will not peel nor the subsequent growth sufficiently cement the bud to the stock; thirdly, buds sufficiently mature; fourthly, a keen, flat knife for shaving off the bud that it may lie close in contact upon the wood of the stock; fifthly, the application of a ligature with moderate pressure, causing the bud to fit the stock closely. When the stocks are in the best condition it is unnecessary to raise the bark any further than to admit the lower point of the bud, which, as it is pushed downwards, performs this operation in the most perfect manner. When the bark does not peel freely enough for this purpose, success becomes uncertain. Budding is performed in summer.

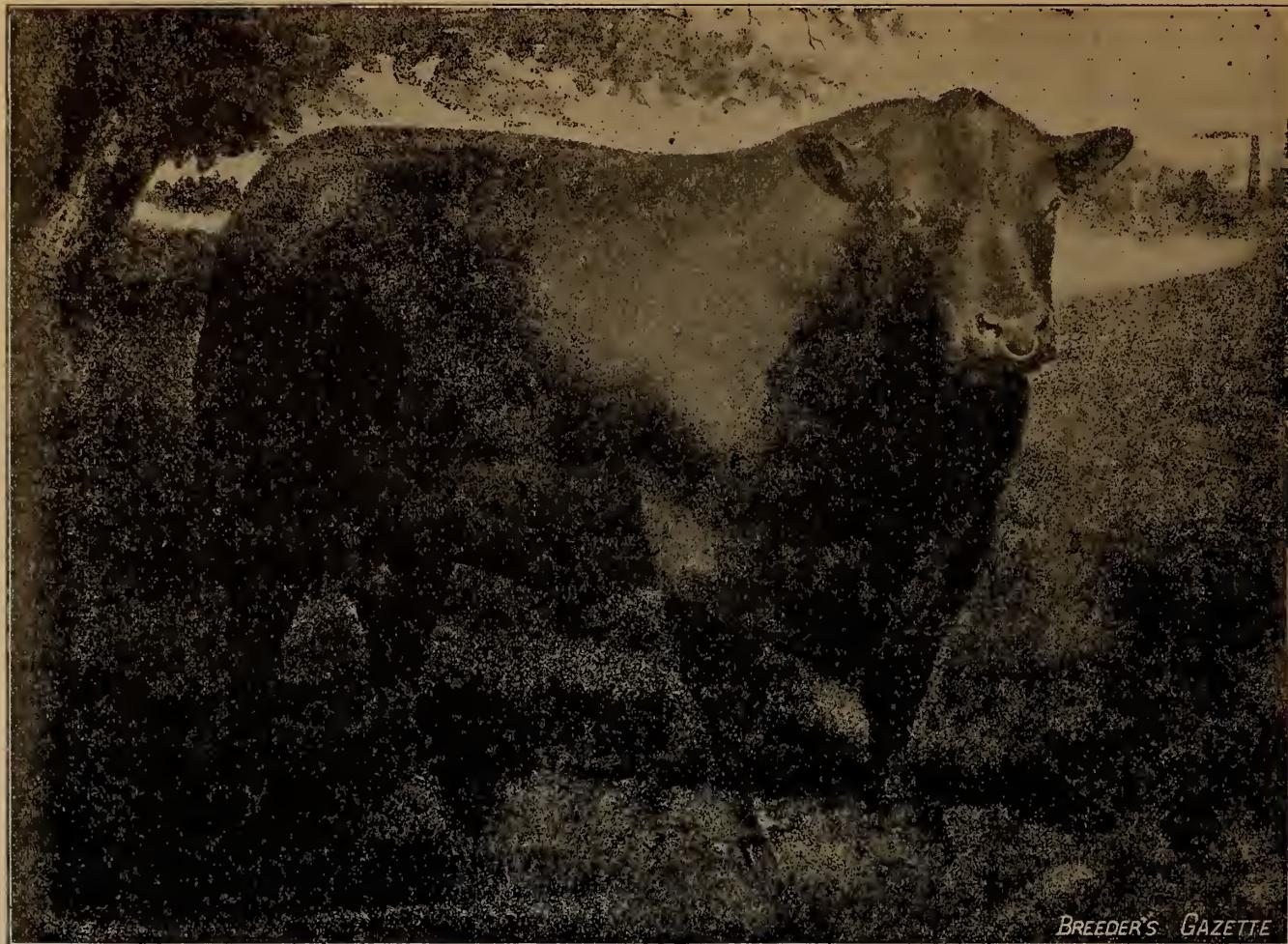
Place a bushel of choice peaches in an old dirty box, barrel or tub. How poorly does the fruit appear? But take the same fruit, place it in neat, clean, tidy packages, firmly packed, and it will appear so much better and sell for so much more that a novice in the work can scarcely realize it is the same fruit. The buyer will gladly pay more for the fruit in the neat, clean package.

The package should be secure, for rough handling may cause a loss of the whole, which would amount to more than the labor involved on a number.

Look, then, in time, and provide a good supply of the very best fruit packages.—*Farm, Field and Fireside.*

Early market tomatoes require short, well-rotted manure in the hill; the crop for canning should have in addition a coating of manure broadcast. This will keep the vines growing late and bearing until frost. The best treatment for the tomato blight is the Bordeaux mixture. The early plants should be sprayed in the bed before being transplanted in the field and then at least twice before the fruit begins to ripen. The blight has become a serious drawback to tomato growing in many sections.—*Farm Journal.*

Live Stock and Dairy.



BREEDER'S GAZETTE

GAY BLACKBIRD, 14443.

The famous Aberdeen Angus bull, GAY BLACKBIRD, 14,443, Columbian winner and sire of several of the most noted herd bulls in America, chief among them being Gay Lad (sold at \$3,050, the highest priced American bred Angus bull).

One of his last sons, the Westertown Rose bull, Baron Roseboy, 57666, is at the head of the Sunny Hume herd, at Fitzgerald, N. C.

The old bull was bred by Wallace Estill, Estill, Mo., sired by the great show and breeding bull, Heather Lad 2. He died about one year ago, the property of Mr. J. P. Hine, of Ohio, who paid \$1,025 for him at auction when nine years old.

We were not at all satisfied with the Aberdeen Angus pictures published in our January issue, as they did not do justice to the breed, but at the time we could not do better. This picture of Gay Blackbird will, however, make some amends, as it fairly

represents the breed, which stands very near the top of the beef making breeds.

DRIED BLOOD AS A TONIC FOR YOUNG CALVES.

For two years the Kansas Experiment Station has used dried blood in connection with its experiments in feeding calves. In March, 1899, one of our cows gave birth to a calf weighing eighty-six pounds. This calf was allowed to suck for several weeks, to assist in reducing the inflammation in the dam's udder. On account of poor quality and quantity of milk, the calf did very poorly, and to save its life it became necessary to remove him from his dam. With the ordinary treatment accorded our calves he grew worse and worse, and when seventy-nine days old weighed only ninety pounds, or four pounds heavier than at birth. Although no one would have given ten cents for the calf at this time, an effort was made to bring

him up. He was given castor oil, laudanum, fresh eggs, calf meal, and, as a last resort, dried blood. With the blood the calf commenced to improve, and in a short time was gaining at the rate of nearly fourteen pounds per week, and not infrequently as high as seventeen to eighteen pounds per week. When a year old he weighed 578 pounds—a pretty good record for a calf that gained only four pounds for the first seventy-nine days of its existence. The dried blood consumed during parts of three months amounted to seven and one-half pounds. At two cents per pound, the cost was fifteen cents.

In October, 1900, a heifer belonging to the Agricultural College dropped her first calf. The calf was small and sickly, and for the first few weeks did very poorly, as is shown by the fact that on December 1st it weighed two pounds less than on November 1st. For a few weeks its life was in a very critical condition, but when induced to eat a little dried blood with its milk it began to improve and has been making fair gains ever since.

Dried blood is not only good for a weak calf, but is an excellent remedy for any calf subject to scours. The Kansas Experiment Station has just purchased twenty young calves. Frequently these calves arrive at the station badly affected with scours; a little dried blood always brings about a cure. Recently a test was made with five calves that happened to be scouring at the same time. With two of these dried blood was fed, after reducing the regular feed of milk. With the other three the dried blood was fed without changing the supply of milk. In the former case the calves recovered from the scours after two feeds; in the latter after three feeds. With the seventy head of young calves under experiment at the Kansas station during the past year, there has not been a single case of scours that dried blood has failed to check.

In feeding dried blood, a teaspoonful at a feed is a great plenty. This should be continued until the scours disappear. In case of a weak calf the allowance may be gradually increased to a tablespoonful at a feed. To prevent the dried blood from settling at the bottom of the pail, where the calf will be unable to get it, it may be stirred in the milk while the calf is drinking, or the milk and blood may be fed immediately after being thoroughly mixed. Since dried blood is such a cheap and effective remedy, it will pay any one who raises young calves by hand to have a little available whenever a calf shows signs of disorders in its digestive tract. It can be obtained from any of the large packers. When ordering, state that the blood is wanted for feeding purposes.—D. H. Otis, Kansas Experimental Station.

A. G. C. C., Adv. R., No. 40, has just completed a most wonderful year's milk and butter fat record. This record has been made under the rules and conditions for The Advanced Register of Guernsey Cattle, which requires the supervision of an Agricultural Experiment Station. In this instance a representative of the Massachusetts State Station saw and sampled the milk of this cow each month and reported the results thus obtained. The inspector also reported various weighings of milk as check weights. The owner reported the detailed weights of milk for each day and statement of feed and care.

Dolly Bloom calved March 22d, and started her record March 26, 1902, when 23 months old, and completed it March 25, 1903. During this time she gave 8,841.58 pounds of milk, 5.13 average per cent. butter fat, 453.86 pounds butter fat, equivalent to over 500 pounds of butter.

The requirements for the admission of this cow to The Advanced Register was 6,000 pounds milk and 250.5 pounds butter fat. Her production greatly exceeded this requirement. The record made is the *largest record of a year's production of butter fat by any two-year-old heifer in the world that can be found recorded*, and at the same time supervised by any representatives of a public institution or an organization.

The following statement from the owner as to the daily feeding of this cow during her record will be of interest:

March, 1902. After calving her feed for the rest of the month was gradually increased until it reached 5 pounds shorts, 15 pounds ensilage and clover hay *ad libitum*.

April. Six pounds shorts, 1 3-4 pounds old process oil meal, 1 3-4 pounds gluten, 20 pounds ensilage and clover hay *ad libitum*.

May. Same grain as in April, with the addition of 1 pound corn meal, clover hay until the 15th, when she was turned to pasture and fed peas and oats in the barn.

June. Same as in May except green clover in place of the peas and oats.

July, August and September. Same grain, with the omission of the corn meal. Pasture and green clover continued.

October. Same grain. For coarse food in addition to the pasture, millet and a little clover hay was given.

November to March. Same grain, 20 pounds ensilage, 40 pounds roots (mixture of 1 pound carrots to every 2 pounds mangolds) and clover hay *ad libitum*.

During the summer she was out in pasture until

OVER 500 POUNDS OF BUTTER IN THE YEAR.

The Guernsey heifer, Dolly Bloom, No. 12770,

heat of day, and at noon was fed green stuff in the stable. If weather was hot she was turned out at night and stabled in day time. She had the same care and feed as the other cows of her age in the herd with regard to general way of handling. She was milked only twice a day and stood in a standing stall.

Dolly Bloom was bred by Mr. Ezra Michener, of Michener, Pa., and dropped April 14, 1900. Her sire was Divan, 5846, and her dam Questa, 11385. Their breeding goes back to such noted animals as Bonny Boy, Fernwood Lily and Imp. Pacific.

Dolly Bloom is owned by Mr. F. Lothrop Ames, of Boston. Mr. Ames takes great pride in his small but choice herd of Guernseys at his beautiful estate, "Langwater," in North Easton, Mass., and the work of this cow is a great pleasure to him.

This heifer bears unquestionable testimony to the capabilities of a Guernsey cow. She is one of forty Guernsey cows that have made official yearly records of butter fat and been admitted to the Advanced Register. The records varying from 296 pounds to 602 pounds (equivalent to 346 and 702 pounds butter).

W. M. H. CALDWELL,
Secretary.

Peterboro, N. H., April 1903.

PASTURE FOR HOGS.

The Kansas Experiment Station has realized \$11.90 per acre from rape pasture and \$24.10 from alfalfa pasture in ninety-eight days. These results were obtained from the following experiments, which were begun July 25th and concluded October 31, 1902:

Thirty shoats, averaging 52 pounds in weight, were divided as nearly equally as possible into three lots of ten each. Lot I was fed on a grain mixture of shorts one-half, corn meal one-fourth, and Kafir corn meal one-fourth, in a dry lot. The other two lots were fed the same grain ration, but one received rape pasture and the other alfalfa pasture in addition. Each lot was given what grain the hogs would eat up clean, and each had access to water and ashes. The weights of gains made are as follows:

	Grain consumed in pounds.	Total gain in pounds.	Grain consumed per 100 lbs gain, in pounds.
I. No pasture....	3801	1023	371
II. Rape pasture...	3244	1076	301
III. Alfalfa pasture.	3244	1078	300

The gains of the three lots are very nearly equal. The dry lot consumed 557 pounds, or 70 pounds for every 100 pounds of gain, more grain than the pasture

lots. The lot on rape required one acre of pasture, while the alfalfa lot used a trifle less than one-half acre.

The lot without pasture required 3.71 pounds of grain, to produce one pound of gain. Assigning the same value to the grain fed the hogs on rape pasture, we have 877 pounds of pork credited to the grain and 199 pounds credited to the rape. At six cents per pound, the price at which hogs were selling at the close of the experiment, this would be a credit of \$11.90 per acre for the rape. In a similar manner the alfalfa is credited with 201 pounds of pork, equal to \$12.05, and as there was only a half-acre of alfalfa this makes a rate of \$24.10 per acre.

The cost of preparing the seed bed and seeding the rape was \$1.80 per acre. It was seeded in the feed lots on soil that would otherwise have remained idle, or would have grown up to weeds.

The shoats on pasture enjoyed their diet and seemed satisfied. Those in the dry lots seemed to be hankering after something green, and their appetites seemed unsatisfied without some kind of roughness. They would even nibble at straw in a vain attempt to satisfy their craving.

The experiment emphasizes the superior value of alfalfa pasture. Where alfalfa is not available, or where variety is wanted or it is desired to utilize otherwise waste land, Dwarf Essex rape, seeded at the rate of six to eight pounds per acre any time from early spring to late summer, will furnish an excellent diet that is greatly relished by the hog. Succulence and variety will make healthier hogs that will return increased profits.

D. H. OTIS.

Manhattan, Kan.

ANGUS CATTLE.

Editor Southern Planter:

I think it is now a well settled fact that the Angus cattle excel all other breeds for beef. At all the recent fat stock shows, both in Chicago and Pittsburg, the Angus took all the premiums except one, and that was given to the Hereford cross on the Angus.

Mr. A. Eichel, the leading butcher of Richmond, told me last week that the finest cattle he has ever killed were six Angus cattle raised by me and five by a gentleman above Richmond.

I sold those cattle to the Brauer Cattle Co. in the field for \$52.50 each. Mr. Brauer and myself estimated them when sold at 1,200 pounds, I think about the 12th of September. They were put on the market the following Christmas, and Mr. Eichel told me

they weighed over 1,500 pounds, which was a gain of over 300 pounds to the steer in a fraction over three months. Mr. Henry Block said they were the finest he had ever seen. I think these facts speak well for the Angus cattle. Our section is not considered anything extra for grazing, so I think that more was due to the breeding of the cattle than to the grass. I have been raising Angus cattle for about ten years, and I am satisfied I can keep one-third more of this breed on the same feed and grass than of any other breed I have ever kept. They do not give a big quantity of milk, but it is very rich, judging from the calves, which are always fat. I hope the day is not far distant when all this Piedmont section will have the black cattle, and thus do away with the necessity for the most barbarous thing that ever was done, de-horning cattle.

J. H. ELLIS.

Orange Co., Va.

INTELLECTUAL BEEF,

Editor Southern Planter:

A writer in the *Breeders' Gazette* promises, some may say threatens, a supply from that great food emporium, the West, of "intellectual beef." The consumer and the producer may take different views on the desirability of the attainment. The writer once possessed a very intelligent mule, inquisitive people may be interested to know that his name was Jacob, but I did not eat him. I sold him, seeing that I was running a farm and not a circus. I read somewhere that in ancient Egypt her kings used to eat their prime ministers or secretaries of state to increase their mental abilities. As we do not read of it now-a-days, perhaps the prime ministers or secretaries of state are not so clever as they used to be. Should it be proved beyond contradiction that "correlation between cranial development and the tenderness of the meat exists" in selling an old roguish steer to a dealer or butcher, what stress the seller should lay upon that fact? Some sensitive people may look upon increased cranial development as the beginning of the end, and that pathos and not the graspsness of the beef trust will cause man to cease to be carnivorous. But is not the acquired intelligence of domesticity offset by loss of acuteness in what is called instinct? Must not the tenderness of the animal's meat result from the cranium of man?

Disposition has a very decided influence on the condition a horse keeps in, and probably has more influence in a domesticated state than in free nature, but whether a high strung, thoroughbred racing colt,

or a phlegmatic young drafter would possess tender meat is a question yet to be decided, though if tenderness has a relation to temperament, the fact would speak plainer in the horse than the cow—and in less degree still in the hog. Animals must be accredited with many faculties of mental orders in low degrees, probably the state of the mind we call human before it was impregnated with consciousness, and followed by conscientiousness, the growths of which have caused a continued widening breach between the human and the animal. What will the West do next is a trite saying, with the sun harnessed to the sun-motor and her population surpassing that of the Celestial Empire.

W. M.

Albemarle Co., Va.

BLACKLEG.

Editor Southern Planter:

I have before me your issue for May, and have read the article in regard to blackleg and its prevention by vaccination. It would appear from that article that the vaccination of animals to protect them against blackleg was purely an experiment, whereas as a matter of fact, the blackleg vaccine was discovered by Messrs. Arloing, Cornevin and Thomas nineteen years ago, and has been put to practical use for some eighteen years in Europe. I introduced blackleg vaccination into North America as long ago as 1895, and over five millions of calves have been vaccinated in the United States during the last few years with the vaccines that are still prepared by Messrs. Arloing and Thomas, and which are furnished by the Pasteur Vaccine Co.

The blackleg vaccine was first of all made in the powder form, with two lymphs that were administered at an interval of about a week. A few years later the vaccine in powder form was prepared of medium strength, which necessitated only one application. However, as highly graded or pure-bred stock are more susceptible to blackleg than common stock, it is always desirable to treat such animals with the "double" vaccine, consisting of the two lymphs, as the double treatment affords a higher degree of protection than the single treatment. Moreover, it is naturally desirable to give the highest possible degree of protection against blackleg to the more valuable animals.

Some years later an improvement was made in the method of preparing and applying the vaccine, and this was brought about by Dr. Thomas. This is in the form of a cord saturated with the vaccine and then dried, and it is applied in the same way as one would

take a stitch under the skin. This has rendered vaccination more popular, as it has made the operation so much easier, doing away with the expensive and troublesome syringe outfit with pestle, mortar, etc., for preparing the powder vaccine for use. The cord form of vaccine is generally known as "Blacklegine," and for several years past has been furnished both for single treatment and for double treatment.

About *twenty millions* of calves have now been vaccinated against blackleg, of which about 95 per cent. have been vaccinated with the original vaccines prepared by Messrs. Arloing and Thomas, and furnished in this country by the Pasteur Vaccine Co. It will readily be seen, therefore, that vaccination against blackleg is by no means an experiment, and as above mentioned, the vaccine has been a commercial product for about eighteen years. An article is never taken up commercially until the experimental stage is passed. I hasten to correct the erroneous impression conveyed by the article in question, as, if it were thought that vaccination against blackleg was simply an *experiment*, it would deter a number of stock raisers from resorting to vaccination, and by refraining from vaccinating their stock, they would continue to lose their calves from blackleg at the same high rate as existed before vaccination was introduced by myself into this country eight years ago. Perhaps it is not out of place to say that the well-known scientist, Louis Pasteur, discovered the preventive vaccination for anthrax twenty years ago, and over twenty-three millions of animals have been successfully protected against anthrax with Pasteur's anthrax vaccine in Europe, North America, South America and Australia—in fact, in all parts of the civilized world where anthrax is troublesome.

Chicago, Ill.

HAROLD SORBY.

THE FUTURE OF THE SHORT HORN.

We take the following extract from a letter from an English breeder to the *Breeders' Gazette*. It emphasizes the point we have so often made that Short Horn breeders in this country have lost sight of one of the grandest points in that fine breed—viz., its milk and butter producing capacity. It is this quality, combined with its good feeding qualities, which makes it pre-eminently the farmer's cow. We want breeders here to get back to this type, and then in a Short Horn the farmer will have the finest dual purpose cow in the world:

It seems to me that in the States of America you know the Short Horn in its beef state only. In the

old country we know it in its true cosmopolitan form, a true dual-purpose animal unequalled for the production of beef and milk. If we go to the bed rock of Short Horn history we find special mention of the milking qualities of the earliest recorded cows. Take, for instance, the earliest recorded female Tripes, ancestress of the Princess family, calved some time previous to 1760. This cow, said to have been a great grazer, was the grandam of a heifer by Masterman's Bull (422) and in two successive years produced twin calves and gave eighteen quarts of milk twice a day for more than a month after calving. It is this reputation for milk producing, combined with an aptitude to fatten when dry equal to that of any other breed, that has given the Short Horn first place in the race of breeds.

In this country to-day we have two practically distinct types of Short Horns—the Scotch or beef producing, now the rage in America, and the dual purpose English Short Horn founded on the old Booth and Bates blood. It is to the latter with a judicious blend of the former to give it more substance and earlier maturity that I look to carry on the glorious work of the breed in the future. The old Bates in the Southwest of England that were practically ruined by the mad rush for straight Bates in the seventies and early eighties, have for the last fifteen years or so been recuperating under the shadow of the straight Scotch edifice erected by the sage of Sittyton, an edifice not the growth of a night, but the outcome of a lifetime of patient labor directed by a master mind. A thought sometimes occurs to me—though it may be heresy to express it—when I think of the foundation on which Amos Cruickshank's life-work was laid, on which in the autumn of his days he had the pleasure of placing the corner-stone, and of the story after story that the builders who succeeded him are adding, some with judgment, some without, to that building, that some time in the future—who may say how soon?—the whole structure will fall like a house of cards as flat as the "Bates and no surrender" bubble when pricked with the needle of common sense.

Now one word as to the Short Horn of the future. We must bear in mind that he is the Anglo-Saxon of the bovine species and as the pioneer and civilizer of the cattle world he must retain his activity and constitution, so that in a new country, if necessary, he can forage for himself. With this end in view breeders in this country must aim at the style and grandeur of the early Short Horn combined with the aptitude to fatten of the Cruickshank cattle and at the same time take care that the milking powers are not neglected.—JAMES PETER, in *Breeders' Gazette*.

The Poultry Yard.

NUX VOMICA FOR CHICKEN KILLING HAWKS.

Our reply to the inquiry on this subject, published in our last issue, has brought forth the following information from subscribers. We are certainly surprised to learn that hens and chickens are apparently immune to the action of nux vomica (strychnine), which is so violent a poison to human beings and all animals so far as we know. A still more curious feature is brought out in one of the communications—viz., that the drug is poisonous to ducks and guineas. The communications are from persons of the highest repute in their sections, and known to us to be thoroughly trustworthy, and we therefore make no hesitation in publishing the same. We would, however, urge that care should be taken in the handling of the drug, to keep it out of reach of human beings and the live stock of the farm other than the hens and chickens:

Editor Southern Planter:

I have for years believed in the testimony of those in whom I have confidence, that strychnine would not kill a chicken. When I read in the last issue of the *PLANTER* the inquiry about the dose of nux vomica to be given to chickens with a view of killing hawks, and your comments theron, I determined to take nobody's sayso, but experiment for myself. I took as much strychnine as I could get on the point of a pocket knife, enough to kill a dozen crows, made it into a pill with bran and gave it to a hen. She seemed to enjoy it very much, and went off singing as if she were happy. I watched her for some time to see if it would affect her in any way, but she continued in good spirits and is alive and well this morning. Now, why is it that strychnine will kill crows, hawks and other birds, but has no effect on chickens?

Amelia Co., Va.

R. E. BRIDGEFORTH.

Editor Southern Planter:

I saw a letter in the May issue of the *PLANTER* from Mr. Montague, of King William, asking for information in regard to nux vomica being given to chickens to kill hawks, and as I have used it successfully for two years, am glad of the opportunity to tell him and others of my experience. I had very little faith in it at first, but as the hawks were so very troublesome, thought I would give it a trial, and was so much pleased, have used it ever since. I cannot say it kills the hawks, as I have never heard of one

being found dead, but it surely keeps them away, and I think makes the chicks healthy. I buy the powdered nux vomica, and as I have a good many chicks, get one-quarter pound at a time from a reliable druggist. Begin by mixing one-half teaspoonful in one quart of dry meal, wet up with water and feed every two days. Gradually increase the dose to one teaspoon to a quart of meal. If you give too much at first the chicks have convulsions. I simply put my dough in the feed coop and let them eat it at will. It kills guineas and ducks, so be careful. I think best to discontinue the use of it about a month before the chickens are used for table. As Mr. Montague has a small flock, he can proportion the dose to the amount of meal he uses

MRS. R. T. SOUTHALL.

New Kent Co., Va.

Editor Southern Planter:

I am glad that I am able to give the information desired in regard to how much nux vomica to give a chicken to kill the hawk and not injure the chicken. I have been using it for the last eight or nine years with the very best results. As soon as I find out that the hawk is catching them, I stop up all of the hens and chickens except one hen and her chickens, and mix four or five drops of nux vomica thoroughly in the dough, and let the little chicks run out. I mean four or five drops for each chicken. Say you have 10 chicks, 50 drops of nux vomica. The first chick the hawk catches is sure death to him. I never give it until the hawk is catching my chickens. It does not act so well on large chickens. Always give it to the youngest ones you have. I generally give it in the morning, and the hawk will soon come and catch one, and that is the last of him.

Louisa Co., Va.

J. P. E. JOHNSON.

TO DESTROY LICE IN THE COOPS AND HOUSES.

Nothing is better to use as a liquid lice-killer than crude petroleum. It is a cheap, heavy, dark oil, just as it comes from the ground. It is sure death to all manner and kinds of hen lice that it touches or that comes in contact with it. It can be used like paint, with a brush to apply it. Kerosene oil, with one pound of naphthaline balls to the gallon, makes another good lice paint; and there are quite a number of liquids sold in cans for this special purpose. No

matter which of these you may select, make good use of them prior to placing a hen and her young brood within an old hen coop. Be sure to paint the coop with this at least twenty-four hours before using it, as the fumes of these mixtures will kill very young chicks.

ABOUT TURKEYS.

To make a success of turkey raising much care and painstaking must be given the young the first three or four weeks of their life. They are very tender and harder to start than any other fowl. Feed nothing the first twenty-four hours after they are hatched. They gain strength faster if left in the nest with the hen a day and night before cooping. Before putting them in the coop see that it is perfectly clean and free from vermin, and placed on dry ground, a little elevated, that the ground under the coop may not become water soaked in heavy rains.

Remove coop to fresh ground often to avoid filth. Mashed potatoes and sour milk curd mixed with wheat bran is an excellent feed for turkeys and always in order.

Raw meat with onion tops chopped fine may be given once a day with good results.

This forms a diet very much relished by the little fellows at least.

Keep close watch for the large white lice that settle on the heads and necks of the young and kill a large percentage of all that are hatched.

Lard mixed with a sprinkling of sulphur on the head and neck will destroy the lice at once.

Never let the young turkeys get wet and draggled in the morning dew or rain.

Give water in shallow vessels so they can only wet their beaks.

They should only have their liberty on dry, warm days until well feathered, when they may go forth and roam at will.

Green corn, if eaten freely, will produce cholera, which is almost always sure death.

Turkeys, unlike geese, have a very small amount of brains, and are not responsible for the many sad plights they get into.

COST OF EGG PRODUCTION.

The question is being continually asked as to the cost of egg production, the amount of food consumed, and the amount necessary to be fed daily to fowls for

the best results in producing eggs for market. To answer such questions successfully it would be necessary to go over considerable ground and meet the various conditions under which the fowls are kept, and make a particular point in each particular case. About one of the best things in the world to do on this subject is to study carefully every phase of the question and shape matters accordingly.

In the test made for the Agricultural Division of Cornell University, at seven separate and well-separated stations or farms, it is shown that the average egg yield of 2,133 hens, for seventeen weeks, between December 1st and March 29th, was 32.2 eggs per hundred fowls; or, in round numbers, seven eggs per month from each hen; and the food cost of producing these eggs was a little more than sixteen cents per dozen eggs. The average profit was about \$24.00 per hundred hens for the four winter months.

When we compare flocks, we find that one of the flocks of 150 White Leghorn pullets produced thirty-six per cent. egg average, and shows a profit of \$62.00 per hundred hens for the four months. Another flock of ninety-six Leghorn pullets, twenty White Wyandotte pullets, and one hundred cross-bred White Wyandotte and White Leghorn hens, that averaged 340 during the four months, shows an average of thirty-five per cent egg yield, and a profit of \$53.00 per hundred hens for four months; or, as we might say, about \$1.50 per hen per year, if the same ratio is continued. As between the entire average and the average of the best, there is the same grading off as is found in the average of dairy cows, crops, and general business of all kinds. The best results always come to those who manage the best, and even when we average the general average, we find that each hen of the whole lot would show a profit of over 66 cents per hen per year, or six hundred and sixty dollars (\$660) per year from keeping one thousand hens under poor results, as against the making of over fifteen hundred dollars (\$1,500) per year from the proper handling of the same number.

The greatest value of this test is the cost of feeding the hens. This is shown to be \$32.43 for food consumed by one hundred hens in seventeen weeks, or about 2 cents per week per hen. Those that produced the second largest egg yield consumed the most food of all kinds, including green food. They had about four ounces per day, while those that had the least amount of food, cost value, stood eighth in line of egg production and consumed almost five ounces per day, less costly and more bulky food being used.—*Farm Poultry.*

The Horse.

NOTES.

George F. Dyer has quite a good stable of trotters and pacers, which are being worked for speed over the Fair Grounds track at Lynchburg, Va. The best known member of Dyer's string is the bay pacing mare, Little Belle, 2:13 $\frac{1}{4}$, with whom he won a number of races in 1902. The daughter of Sidney, 2:19 $\frac{3}{4}$, is now in fine shape, and will be taken to the races later on. Among others in Dyer's hands are Sport, b. g., pacer, by Dr. Hooker, dam, the dam of Josie B., 2:09 $\frac{1}{4}$; Pete Warlock, b. g., 4, by Warlock, dam by Strathmore; chestnut gelding, 4, by Robert Mediu, dam by Melville Chief; Jim Rosin, b. g., 4, by Dr. Hooker, dam by Young Jim, and some half dozen or more well bred road horses. Dyer is a careful painstaking man with a horse, and has been quite successful during recent years with such horses as Little Bell, 2:14 1-4; Skyland Girl, 2:19 $\frac{1}{4}$; Trib Gentry, 2:20; Princetell, 2:23 1-4, and others with slower records.

* * *

Mr. John P. Branch, the head of the banking house of Thomas Branch & Co., this city, has a horse that would most likely learn to go fast with development in the grand looking big brown gelding Quartz, by Quartermaster, who recently drew a heavy road wagon a mile out in 2:37 1-4 over the Deep Run Hunt Club track. He is being driven on the road, but Mr. Branch has three others in George R. Richmond's stable at the Hunt Club track. They are a bay pacing gelding by Willis, dam Louise, sister to Branchwood, 2:22 1-4, by Woodburn Hambletonian; b. g., 4, by Toodles, Jr., dam Louise, and Thiol, brown mare, by Egwood.

* * *

Virginia horses were quite strongly in evidence at the recent Baltimore Horse Show, especially in the classes for hunters and jumpers. Courtland H. Smith, of the Hampton Farm, Alexandria, carried off the ribbon in the class for championship hunters with Chappie Lee, and Tip Top, in the same stable, came second. Grand old Hornpipe, owned by Mrs. Charles H. Hurkamp, of the Boscobel Farm, Fredericksburg, one of the most consistent of slow horses and ever ready to do his best when called upon, was also in evidence, as the big roan son of Young Sanford, took first prize in the class for ladies' hunters.

* * *

In his private stable here Mr. Langhorne Putney has a couple of well mannered and speedy harness horses in Foxhall, 2:19 3-4, and Foxie Lambert, 2:22. Both are trotters. Foxhall, the chestnut son of Great Stakes, 2:20, and Sue Norfolk, by Norfolk,

is eight years old, and just in the prime of his usefulness. He is a product of the Foxhall Farm, Norfolk, and one of the speediest of Virginia bred, and when right and fit, and gotten off on his stride, I doubt if any horse in Richmond can head him in a brush from a half mile up. His sire, Great Stakes, is in the stud of W. H. Nelson, this city, while his dam, the great brood mare Sue Norfolk, dam of three in the list, is the most highly prized matron owned by L. G. Roper, of Roper, N. C.

* * *

The annual crop of thoroughbred yearlings from the Ellerslie Stud of R. J. Hancock and Son, Charlottesville, Va., are to be sold on Friday, June 12th, by the Fasig-Tipton Company, New York, at their Sheepshead Bay paddocks, and the collection is one of the choicest ever sent from the farm. The offerings include full brothers and sisters to horses that have made history on the running turf. Ellerslie is one of the most noted breeding establishments in the land, and the stallions and brood mares in use are among the richest bred to be found in the Stud Book.

* * *

J. S. Curtis, of the Mayfield Stud, Leesburg, Va., has been permitted by the Jockey Club of New York to register the name Salvini for the chestnut colt, two years old, by imp. Saville, dam imp. Star Actress, by Kendal. Salvini was bred at Mayfield, where his sire and dam were owned. He was taken to England as a yearling and then brought back to this country, and in order to register him under the name claimed Mr. Curtis was assessed the usual fine of \$50 for a delay of more than six months in the matter. Had it have been taken up as prescribed by rules of the Jockey Club the cost would have only been \$5.

* * *

Robert Broadley's horses were in evidence at the Washington spring meeting, and now they are winning at Chicago. Ahola, the bay filly, 3, by Aloha, dam Mrs. Stuart, by Panique, won recently in a handicap for all ages at $\frac{3}{4}$ mile. This filly is the Derby candidate of the Bradley stable, and the tall Virginian hopes to land first money in that classic event. Ahola was bred by Mr. Bradley at Greenway Farm, where her sire, Aloha, heads the stud, and is credited with siring Robert Waddell and other good winners.

* * *

Albert Fletcher, Jr., Warrenton, Va., has sold to H. V. Colt, Genessee, N. Y., a very promising young gelding by His Grace, son of Eolus. The price was \$400, and the gelding will be schooled to jump by his new owner.

BROAD ROCK.

Miscellaneous.

THE VIRGINIA STATE BOARD OF AGRICULTURE.

The first meeting of the newly appointed State Board of Agriculture was held in Richmond on April 14th. The members of the old Board have, with the exception of Mr. Browning, who declined reappointment, been reappointed. In Mr. Browning's place Mr. Gillespie has been appointed. Dr. J. M. McBryde, the President of the Agricultural College and Director of the Experiment Station of Virginia, has become, under the terms of the new Constitution, a member ex-officio of the Board, and took his seat. The Board organized for business by the election of the Hon. J. H. C. Beverly, of Essex county, to the position of President. Mr. Beverly is a large and successful farmer, who has had several years' experience on the Board, and we doubt not will make a most efficient presiding officer. We congratulate him upon his appointment. He is by education and experience well fitted to discharge the duties of the position, and farmers may look with confidence to him to guard and advance their interests. The Board appointed a special committee to confer with the joint legislative committee as to the necessary legislation required to be enacted to bring the work of the Board into harmony with the requirements of the new Constitution. This committee subsequently met the joint legislative committee and submitted a bill, which seemed fitted to meet the needs of the case, and which bill met the approval of the legislators, and has since been enacted into law. We have not yet been able to secure a copy of this law, but will do so as soon as printed and publish same for the information of our readers. We understand that there was some conflict between the Commissioner of Agriculture and the Board as to their respective duties, the Commissioner being desirous of controlling the work of the Department of Agriculture and placing the Board itself in a secondary position. The Board declined to accede to this view of their duties, and submitted that in accordance with the terms of the new Constitution the Department should "be under the management and control of the Board, with power to elect and remove its officers," and in this contention they were sustained by the Legislature. Practically, therefore, the Commissioner is now placed in the position which we have always contended he ought to occupy—viz., that of being merely the executive officer of the Board. We strongly urged this point before the Agricultural Committee of the Constitu-

tional Convention, and that committee agreed with us, and so reported, and further provided that his appointment should be by the Board. Unfortunately, the Convention itself changed this into an appointment by the people, and thus placed the office in the hands of the politicians. We were afraid that this change would result in a conflict of authority between the Board and the Commissioner and perpetuate what had been the bane of the old Board and Commissioner, and the result has justified our fear. We hope, however, that this may now be at an end, as the result of the action of the Legislature, and that undivided and harmonious action may mark the future work of the Board and Commissioner.

THE GOOD ROADS QUESTION.

In our last issue, writing on this subject, we strongly emphasized the importance of joint action by the Nation, the State and the County if good roads are to be had without an undue burden being cast upon farmers. We are glad to see that this view of the matter commended itself to the recent National Convention, held in St. Louis, which was the largest and most representative gathering ever held on the road question. President Roosevelt and Mr. W. J. Bryan and other representative men addressed the gathering. Colonel Killebrew, of Tennessee, writing on the Convention, says:

"No more successful Convention was ever held in the interest of any industrial movement than the Good Roads' Convention, that was held in St. Louis from April 27th to the 29th, inclusive. In the number and intelligence of its delegates, in its enthusiasm and working capacity, in its unanimity and singleness of purpose, in the number of able speakers and freedom from partisan or political influences, it was seldom if ever equaled.

"Two thousand delegates, from nearly every State and Territory in the Union, attended the Convention. From the first day to the last the most dominating idea was the necessity of government aid in the construction of rural routes—government aid to be conditioned upon an equal amount of local aid, as set forth in the Brownlow bill. All the speakers, with the exception of one or two, dwelt upon this idea, and the thundering applause that followed each speaker left no room for doubt as to the sentiment of the Convention on this point.

"The best evidence, however, was in the adoption of the declaration of principles and resolutions on the last day of the meeting. There was not a dissenting voice in that large assemblage. The declaration of principles as set forth asserted that the building of good roads in the United States is now of paramount importance to national prosperity and commercial supremacy; that the harmonious co-operation of township, county, State and National governments is needed in furtherance of this end; that though the appropriations hitherto made by Congress for the improvement of the rivers and harbors were beneficent and commendable, yet the time has come when the agricultural districts should be assisted in the matter of building highways, so that the benefits of the free mail delivery may be extended, and thus promote a higher order of citizenship, and also meet the ever-growing necessities of the great agricultural interests of the country, upon which its prosperity and growth depend.

"The establishment throughout the United States of a complete and perfect organization for this purpose was recommended, and the delegates assembled were made representatives of the national organization of the Good Roads' Association, to carry forward this local organization. The work of the Office of public road inquiries was endorsed, and the sense of the Convention was that its opportunities should be enlarged and its usefulness extended by a larger appropriation.

"The principle of State and county co-operation was commended, and it was more than once emphasized that it is as much the duty of the general government to assist in the building of highways as it is to improve the rivers and harbors.

"The resolution favoring National aid is to be presented to the Congress of the United States by a committee composed of one member from each State, to be selected by the secretary of the National Good Roads' Association. The building of the memorial road from Monticello to the University of Virginia in honor of Thomas Jefferson, who signed the first bill for the construction of a national highway on March 29, 1806, was unanimously approved and endorsed by the Convention.

Among the most distinguished speakers at the Convention were President Roosevelt, William J. Bryan, Senator Latimer, of South Carolina, and Governor Cummins, of Iowa. Mr. Roosevelt and Mr. Bryan both spoke of the necessity of building better highways for the nation, and though neither committed himself to the proposition of advocating government aid, yet the inference was clear that both would favor

such expenditures. Senator Latimer made a strong and unanswerable argument in favor of government aid. There will be no more earnest worker for good roads in the next Congress than Senator Latimer.

"The President made some good points. Among other things, he said:

"It is the habit of road building that gives to a people permanent greatness.

"The development of the iron road has been all that one could wish, but it is mere presumption to consider good railways as substitutes for good highways.

"We want to see cities built up, but not at the expense of the country districts.

"If the winter means to the average farmer a long line of liquid morasses through which he must painfully force his team if bent on business, and through which he must wade or swim if bent on pleasure; if an ordinary rain storm means that the farmer's boy or girl cannot use their bicycles, you have got to expect that those who live in the rural districts will not find farm life attractive.

"We should all encourage any check to the unhealthy flow from the country to the city."

"This movement in favor of government aid is gathering strength day by day. It will reach such proportions by the meeting of the next Congress that no Congressman who has any regard for his own popularity will be able to resist it. Several conversions occurred during this National Convention. Several who came prepared to resist the movement were astonished at the depth and unanimity of sentiment among the delegates of all political parties. The impulse is gathering strength, and he who would not be swept away must move with it."

We trust that our Legislature when it meets again in November will endorse this movement, and not waste more time in passing useless road laws, which please nobody long, and effect no permanent improvement of our roads.

PICKING STRAWBERRIES IN SOUTHEASTERN VIRGINIA, NEAR THE SEA.

Editor Southern Planter:

In the early morning of May 6th I made a trip to the berry fields around Norfolk, Va., in company with a photographer, for the purpose of securing some views suitable for properly illustrating the Virginia berry business at the St. Louis Exposition.

At 8 o'clock A. M. we reached the farm of one of our largest berry growers, and found more than four hundred dusky pickers waiting the order to go to

work. These hands had gathered there from the city and adjacent country.

They were made up of all sorts, sizes, ages, degrees and conditions. There were old and young, short and tall, fat and lean, male and female—in fact, there was a regular cloud of big darks, little darks and darklets.

They were all good natured and jolly, and while waiting for the signal to begin, the time was spent in laughing, chattering and joking, and the whole mass gathered around the packing house, reminding one of a swarm of bees hanging on to a big honeycomb.

The acreage in berries on this farm was not far from one hundred acres. It was one large square field with a wagon road running through the centre of the field each way, cutting the field into four equal squares. At the crossing of the roads, in the middle of this one hundred acre field, the packing sheds were erected and the crates stored.

At about 8:30 A. M., after the dew was off the vines, the signal was given to begin work. The four hundred pickers were looked after by four sub-overseers, and the whole work was looked after by a superintendent.

The day we were there the west half of the square was to be picked, and the pickers in charge of the overseers were marched to the western boundary of the field, and each one took his position at the end of a row of berries. Each picker had a tray and about ten empty quart baskets.

While they were marching from the centre of the field to take their position for picking, our photographer got a good photograph of the moving mass. At the signal they all began picking, and after they had picked about five minutes our photographer secured another view of the pickers.

It was surely an interesting sight. The berries were large and a beautiful red; the foliage was a beautiful green; the sky overhead was blue, while the pickers were black.

It was a scene once seen never forgotten. We learned afterwards that the result of the picking that morning was something less than one hundred and fifty crates, each holding sixty quarts.

The price paid the pickers is two cents per quart. At this price a good picker often makes as high as one dollar to two dollars per day, although they seldom pick all day.

The market price of berries has been well sustained this year; the ruling price at present being from ten to fifteen cents per quart. For more than two weeks the crop has been going forward to market. The cool weather, so far prevailing in May, ripens the

berries slowly, so slowly that every quart is finding a good market. The berries are also firm and are going forward in a splendid condition.

We are hoping that the crop will reach well up to the maximum—say ten million quarts—and we are also hoping that the average price will reach very near the ten cent mark, which makes a round million dollars for the berry crop of this section. In such case the cost to pick will reach twenty thousand dollars, and this sum is deposited at the very bottom of the heap, so to speak. It circulates onward and upward through the whole mass of business, passing rapidly from the hands of the pickers to the retailers in our city, thence to the wholesale men, thence to the jobbers and manufacturers in the great Northern and Eastern financial centres, from whence it is drawn back to this field again in exchange for the great potato crop which is to go to market in June.

So we see that the "trucking" dollar makes a round trip in about thirty days—that is to say, it makes the rounds from the laborer up through all of the grades to headquarters, and then back again to the laborer in about thirty days.

It is not so with "wheat" dollar, or the "corn" dollar, or the "beef" or "pork" dollar; such dollars make but one round trip per year. The trucking dollar is the "nimble nickel." It is spent, respent, spent again and again and again, passing through dozens of hands in less than thirty days. Because of the fact that the dollar invested here in agricultural pursuits makes so many round trips per year, business here never gets stagnant. Money is always in motion, because the tillers of the soil always have something to sell.

A. JEFFERS.

Norfolk, Va.

FREAKS OF IRISH POTATOES.

Different Results Under Similar Conditions.

Editor Southern Planter.

There is probably no crop raised in this country that is more talked about among farmers or oftener discussed in the agricultural press than potatoes. This is not because they are a valuable crop, raised on every man's farm, in every part of the country, and constitute a palatable, nourishing, and inexpensive food to be found on every man's table at nearly every meal, but because there are some mysteries about the plant and the terrible diseases to which it is subject. Potatoes sometimes do well under certain conditions of weather and treatment, and again do poorly under apparently the same conditions and treatment. I have known them to do well some

drouthy seasons and do poorly in other dry seasons, to do well in some wet summers, and to rot terribly in other wet summers.

I think it has never yet been satisfactorily settled by the experiments of farmers, or the trials at the experiment stations, whether it is best to plant large or medium sized potatoes whole, or to cut them to one, two or three eyes. That it requires less seed to plant an acre when the potatoes are cut, and that the smaller the pieces the farther they will go in planting, requires but little knowledge of arithmetic to compute, but the question of cutting at all, and the best methods of cutting as a matter of profit is a problem which has not yet been satisfactory solved.

When seed is scarce and dear there is not much doubt that cutting is advisable, and probably with great painstaking and excellent cultivation, cutting to a single eye may be the best. I once raised a heaping half bushel of Early Rose potatoes from a single medium sized potato cut to single eyes and only one piece planted in a hill. The potato was sent to me by a friend, and was the first one of the kind I ever saw.

I have usually had the best success when medium sized potatoes were planted whole. In one instance part of the field was planted with whole seed of medium size, and the remainder with pieces cut to two and three eyes. The quality of the soil and the cultivation were the same. The part planted with whole seed took the start of the other at first, and kept it all through the season. The tops were taller and more stocky, and the yield was the best.

There are some freaks about potatoes I have never been able to understand. My father had about an acre of sod ground on a side hill broken up for potatoes. The land was clay loam and considerably mixed with small flat stones. It had been seeded down with clover and timothy for several years, but the clover had mostly run out. A moderate coat of manure was spread on the surface and plowed under. The plowing was badly done, the horses having been idle, wanted to go fast, and the plowman did not try to restrain them. The consequence was the plow was out of the ground about half the time, and the plowman did not back up to plow the balks.

It was harrowed, furrowed in rows about three feet apart each way, and planted the forepart of May. The cultivation was with a small plow, the potatoes were hoed well twice and hilled up. The tops were still green at digging time, and the yield prodigious. The season was favorable for potatoes, everybody had good crops, but nobody in our neighborhood had anything that would begin to compare with ours. I have

tried that same ground several times since with potatoes and taken all the pains in the world in manuring, plowing and cultivating, but have never succeeded in equaling that crop, nor have I ever seen it equalled. I do not think it was the poor plowing that made the crop so good. It was good in spite of the unfavorable conditions. But why?

I once manured part of a potato field and left the remainder without manuring. After haying came on the cultivation was neglected, and the part that was manured became very weedy. I inquired of the man who dug the potatoes how they were turning out. He said: "Pretty fair, but they are a great deal the best where the weeds are the highest!" It was true. Both the potatoes and weeds were the biggest where the manure was put. There was plenty for both, so they did not quarrel. The potatoes would no doubt have been better had the weeds been kept down. Weeds injure potatoes more than corn, because the corn soon overtops the weeds and shades them.

Another time I had potatoes on a field that was all manured, but part of the manure was full of weed seed, and the part of the field on which it was placed was quite weedy at digging time, and the other part entirely clean. There was not much observable difference in the yield where the ground was weedy and where it was clean, but the surprising thing about it was that where the weeds grew there was scarcely a rotten potato to be found in the hills, but where the ground was clean, nearly all were rotten. It was the blight, or black rot, which was very prevalent that season. Some may be disposed to doubt this statement, but there is no mistake about the potatoes being much the soundest among the weeds, but why they should be so I cannot tell.

It will seem to corroborate the theory of the Vermont man who claimed to have discovered a remedy for the potato blight by covering the hills with a mulch of straw to shade the potatoes, and shield them from the scalding rays of the sun after a rain. It would seem also to disprove the theory that the rot is a sporadic disease caused by a fungus growth of microscopic, parasitic plants, which have taken root on the potato leaves and makes them wither and die, like the leaves on a blighted pear tree.

According to my experience sod ground that has raised potatoes one year will produce a better crop the next year, provided the season is as favorable. I planted an acre of thick timothy sod ground which was broken up in the spring and well tended. The yield was fair. The next spring I planted the same ground again, and broke up another acre adjoining it, and planted both at the same time with the same

kind of seed. Both patches received the same tillage, but the acre that had grown potatoes the year before produced the larger yield. We would naturally suppose that a crop of potatoes would extract from the soil some of its most available and valuable constituents, and that the second crop on the same ground, not finding so ready a supply of nutriment, would have been poorer than the first, and poorer than the adjoining acre, which had been broken up that spring.

I have seen good potatoes raised by planting them on top of a thick sod without any plowing or cultivating whatever, merely covering the seed thickly with straw and putting on a little more straw as the tops come up through it. There was a fair yield; they were easily dug (by removing the straw), and were as clean and bright as if they had been washed. Where did those potatoes get their food to make their growth? The roots had not penetrated the sod, and the straw had not rotted at digging time. Where did they find the starch, potash and other ingredients of which they were composed?

J. W. INGHAM.

CLOVER AND GRASS IN EASTERN VIRGINIA.

Editor Southern Planter:

Knowing what a great friend you are to clover, cow peas, the vetch, etc., etc., I want to report to you a little circumstance which happened recently.

In company with our photographer, we were exploring some of the berry fields of this section, for the purpose of securing some photos for advertising purposes.

After we had secured our views and turned our faces cityward again, we passed a field thickly set in white and red clover, with the white clover predominating.

In the midst of the field was a Jersey cow, grazing contentedly and literally and actually leg deep in clover. The cow was a beautiful Jersey, a typical cow, and such as should be seen by the dozen on every farm in Eastern Virginia.

The sight was such an attractive one, from an agricultural standpoint, that we had the photographer take a photograph of the "cow in clover."

You know, Mr. Editor, that it is generally supposed and stated that grass will not grow in Eastern Virginia, and it seems to be the general supposition of people throughout the country in general that clover and other grasses will not do well in Virginia, especially in Eastern Virginia. Now, the fact is right here. Our berry growers are compelled to fight the clover to keep it from taking their berry

fields, but the third year the "pesky stuff" takes the berry fields, and really drives the trucker out.

Now the clover in which our Jersey cow was contentedly grazing came in as a volunteer crop. In July, 1902 (last summer), the farmer dug his crop of Irish potatoes. After digging he harrowed the ground down smooth and level, and the crab grass at once took the field. Later in the season he cut fully one and one-half tons of crab grass to the acre, worth on the farm \$10 per ton.

This spring on this same land the white and red clover has come in almost as thick as if it had been sowed by hand, and a first class stand secured.

Nature seems to be trying her best to make man understand that grass, especially clover, will grow here in Eastern Virginia. Keep the stock off this volunteer patch of clover and it will make a first class meadow, from which can be cut, during the ensuing three years, a paying crop of grass, especially when we consider that hay is now retailing at twenty dollars per ton.

All that is needed on any farm in Eastern Virginia is simply to consider the matter of growing clover. Let the farmer start in with a little clover seed, and feed the clover to his stock, thus getting the seed well scattered in the manure, and that manure scattered upon the surface of the soil and nature will do the rest, especially if he keeps a few sheep and some cows.

The "pesky stuff," the clover, which our truck farmers fight as they would a noxious weed, secures a foothold here and there and flourishes luxuriantly, because this is emphatically a clover section. The crimson clover does remarkably well, also white and red clover, also the cow pea, also the vetch, also divers and sundry other grasses.

No man living could see the old cow in the volunteer clover field and truthfully say that clover will not grow in Eastern Virginia.

A. JEFFERS.

Norfolk, Va.

Plaster of Paris will fill floor cracks as well as a more expensive filler, or one that is harder to prepare. Paint as soon as dry and follow with a prepared hardwood finish. Mix only a small amount of plaster of Paris at a time and apply as rapidly as possible with a putty knife. Filling cracks in the floor and about the base boards is a wise precaution against carpet bugs and moths, and is not half so tedious as removing the carpets every few days to destroy the bugs as some house keepers must do all summer in a house badly infested.

THE

Southern Planter

PUBLISHED BY
THE SOUTHERN PLANTER PUBLISHING COMP'Y.
RICHMOND, VA.

ISSUED ON 1ST OF EACH MONTH.

J. F. JACKSON,
Editor and General Manager.
B. MORGAN SHEPHERD,
BUSINESS MANAGER.TERMS FOR ADVERTISING.
Rate card furnished on application.

TERMS FOR SUBSCRIPTION.

THE SOUTHERN PLANTER is mailed to subscribers in the United States and Canada at 50c. per annum; all foreign countries and the city of Richmond, 75c.

REMITTANCES should be made direct to this office, either by Registered Letter or Money Order, which will be at our risk. When made otherwise we cannot be responsible.

WE INVITE FARMERS to write us on any agricultural topic. We are always pleased to receive practical articles. Criticism of Articles, Suggestions How to Improve THE PLANTER, Descriptions of New Grains, Roots, or Vegetables not generally known, Particulars of Experiments tried, or Improved Methods of Cultivation are each and all welcome. Contributions sent us must not be furnished other papers until after they have appeared in our columns. Rejected matter will be returned on receipt of postage.

ALWAYS GIVE THE NAME of the Post-Office to which your paper is sent. Your name cannot be found on our books unless this is done.

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quiries will receive attention.Address— THE SOUTHERN PLANTER.
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PUBLISHER'S NOTES.

TO ADVERTISERS.

All advertisements and matter pertaining to advertising *must* reach us by the 25th of each month. Please bear this in mind.

SPECIAL OFFER.

For 25 cents we will send the Southern Planter for the remainder of this year (June to December inclusive) to any one who is not now a subscriber. We make this liberal offer in order to induce a large number of farmers to send us at least a trial subscription. We will greatly appreciate it if our subscribers will bring this notice to the attention of their friends. They will thereby do us a favor and indirectly help themselves. Remember, this offer is for new subscribers only. We have another offer, which we make to those already on our list. Remittances can be sent in the most convenient form, coin, stamps or money order.

Our Oldest Subscribers.

We have quite a number of subscribers on our list who have been receiving the SOUTHERN PLANTER since it was established in 1840. We are gratified to receive this letter from our friend, Mr. W. T. Harris, of Louisa county:

He writes as follows: "I have been a reader of the SOUTHERN PLANTER since 1840, and I consider it the best agricultural paper published in the United States for a Virginia farmer."

It is needless to say that Mr. Harris will read the SOUTHERN PLANTER the remainder of his days, which we hope will be many.

To Subscribers:

Our readers will confer a very great favor upon us by promptly notifying us of a change in their

WOOD'S SEEDS.

Plant Wood's Prize Head Late Flat Dutch Cabbage

FOR LATE FALL AND WINTER CROP,
Our customers pronounce it,"The finest Cabbage for winter
I have ever grown.""The best late Cabbage I have
ever planted.""Makes the largest and most
solid heads of any late Cabbage
grown in this section."Price of seed, pckt. 5c.; oz. 20c.; 1-4 lb. 50c;
lb. \$1.50, postage paid. See page 17 of Wood's
Seed Book for 1903, for further information about
Late Cabbage Seed. Wood's Seed Book mailed
FREE on request.T. W. WOOD & SONS,
SEED GROWERS AND MERCHANTS,
RICHMOND, VA.

HEEBNER'S ENSILAGE CUTTER.

The best cutter on the market for green or dry corn. Leading ensilage cutter made. It not only cuts, but crushes the stalks, rendering them palatable. Stock greatly relish and live it. A \$5.00 attachment turns the machine into a perfect shredder. Runs with least power. Used for cutting all kinds of stock foods. Power can be applied to pumping, churning, grinding, etc. Catalog free.

HEEBNER & SONS, 25 Broad St., Lansdale, Pa.

A BARGAIN.

1 AULTMAN-TAYLOR SEPARATOR, 27 inch cylinder. Good as new, \$125.00.

1 six horse power AULTMAN-TAYLOR
ENGINE, (Baby Elephant,) \$200.00.DISCOUNT FOR CASH.
Address D. S. GLENN, Prospect, Va.

SEPARATORS AND POWERS.

For 1, 2 and 3 horses, with governor, lever
even tread. Catalogue free.Sweep powers, Corn Shellers, Feed Mills, Steel Rollers, Mowers,
Rakes, Cultivators, Saws, Engines—3 to 25 H.P., mounted or
stationary. The Messinger Mfg. Co., Tatamy, Pa.The "Weber Junior" Pump
is all complete, ready to attach to pump. Equals 80 men
pumping water. Uses but little gas-
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erected, all connec-
tions made.Is also
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for other
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"THE INVINCIBLE"**POTATO PLANTER.**

is the most practical and successful hand potato planter made. Will not clog, but under all conditions does perfect work. Only planter made with open wire sleeve. A boy can plant from four to six acres a day with an Invincible Planter. Strongly made. Handles unbreakable and adjustable. Read these unsolicited letters:

Gentlemen,—I am very highly pleased with the Invincible Potato Planter. Would not take \$10 if I could not get another. Not every farmer can afford to buy a \$100 two-horse planter to use only for a day or two and stand idle the rest of the year.

L. H. SNOW,
Phoenixville, Conn.

Read this:

Gentlemen,—I bought one of your Invincible Potato Planters as a trial sample last year and think it equal to an extra man, besides being a good back saver.

C. W. GRIGGS,
Rose Valley, Pa.

Reliable Agents Wanted.

Any farmer can sell Invincible Planters on sight. Write for terms.

Circulars Free.

H. H. WABERS M'F'G. CO.,
Racine, Wls.

**Just Ask the Horse.**

He knows whether it's hard work to run a hay press. If he's worked on a

**RED RIPPER Hay Press**

he will tell you that it is the lightest running press in the market. A lever gives the compression, and the power increases with the resistance, but the horse doesn't know. He knows that it is just as easy at the end of the stroke as it is at the beginning. The Red Ripper has an easy capacity 20 bales per hour. It is a low priced, in fact, the lowest priced hay press in the market, and so strong and simple it never gets out of repair. It can be loaded on a farm wagon. Our 24 page Catalogue No. 433 tells you more and contains many testimonials we have received from Red Ripper purchasers. Distributing points, Baltimore, Memphis, Cincinnati. Address SIKES MFG. CO., Helens, Georgia.

THE "ELI"**King of Balers.**

38 Styles and Sizes.

Collins Plow Co., 1185 Hampshire St., Quincy, Ill.

A Constant Stream

of water to the house, barn, garden or lawn

is assured by the



RIFE HYDRAULIC ENGINE.
Pumps water automatically. Better than any ram, engine or wind mill. Sold on 30 Days Trial. Fully guaranteed. Catalogue free.

RIFE ENGINE CO.,
126 Liberty St., New York.

NO HUMBUG. Three

Swine V. Stock Marker and Calf Dehorner. Stops swine from rooting. Makes 48 different ear marks. Extracts Horns. Price \$1.50. Send \$1 for trial. If it suits, send balance. Paid May 6, 1902. Hog and Calf Holder only 75¢.

FARMER BRIGHTON, FAIRFIELD, IOWA.

prietors of the Cottage Valley Stock Farm, renew their advertising contract for another year, beginning with this issue. Aberdeen-Angus cattle are their specialty.

The Bowmont Farms report an "avalanche of orders and letters for large Yorkshires, as well as Jerseys."

St. Albans School has a quarter page ad. in another column. Parents contemplating sending their sons to college this fall should look into the merits of this splendid school. Professor Randolph will cheerfully answer all correspondence.

The types showed an error in the address of Mr. John P. Mays' ad. in our last issue. It should have been Glencooe, Md. He offers the "Maryland Strain" of Brown Leghorns.

A useful little tool is Cronk's Staple Puller, advertised by the Cronk & Carrier Manufacturing Co., Elmira, N. Y.

"The Wise Man's Wagon" is what the Electric Wheel Co., of Quincy, Ill., calls its low-down farm wagon. And it doesn't miss the mark much, either, as an examination into its merits easily prove.

Frazer Axle Grease is offered to our readers year in and year out. And numbers of them use it for exactly the same period.

Well Drilling Machines are advertised by the Loomis Machine Co., Tiffin, O.

Fleming Brothers' Live-Stock Remedies are offered our readers in their ad. in another column. This well-known firm of chemists have an enviable reputation honestly earned.

John E. Heatwole advertises thirty-two varieties of pure bred poultry. Get his catalogue.

A. T. Matthews, owner of the Leghorn Poultry Yards, has renewed his ad. for another term.

Baker's Jack Farm offers 150 jacks and jennets, and some well bred Percheron stallions.

Mr. T. P. Braswell, Battleboro, N. C., has some nice Jersey bulls and heifers for sale. His prices are very low, considering the breeding of his stock.

Mr. E. G. Butler has some choice Berkshires, as well as Herefords. Look up his advertisements.

Essex pigs can be had of L. G. Jones, Bethania, N. C.

The Castalia Herefords are in fine shape. Mr. Boocock invites inspection. There's good blood and farmers' prices combined in his offerings.

J. E. Wing & Co. are offering their celebrated Dorsets in this number.

The American Seeding Machine Co. has a seasonable ad. in this issue.

Chloro-Naphtholeum Dip is a great lice killer, and every farmer should keep some handy.

The Elkhart Carriage and Harness Manufacturing Co. change their ad. in this issue. Look up the offering for this month.

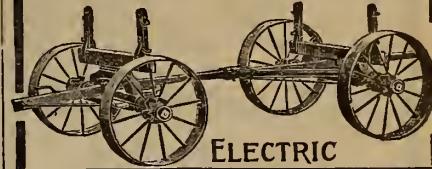
De Loach saw-mills are advertised in another column. Look up the ad.

Wise Man's Wagon.

The man who has had experience in running a wagon knows that it is the wheels that determine the life of the wagon itself. Our

ELECTRIC STEEL WHEELS

have given a new lease of life to thousands of old wagons. They can be had in any desired height and any width of tire up to 8 inches. With a set of these wheels you can in a few minutes make either a high or a low-down wagon. The Electric Wagon is made by skilled workmen of the best selected material—white hickory axles, steel wheels, steel hounds, etc. Guaranteed to carry 4000 lbs. Here is the wagon that will save money for you, as it lasts almost forever. Our catalog describing the uses of these wheels and wagons sent free. Write for it. ELECTRIC WHEEL CO., BOX 146 QUINCY, ILLINOIS.



ELECTRIC

WE'LL PAY THE FREIGHT

and send 4 Buggy Wheels, Steel Tire on, - \$7.25. With Rubber Tires, \$15.00. 1 mfg. wheel $\frac{3}{4}$ to 4 in. tread. Top Buggies, \$28.75; Harness, \$3.60. Write for catalogue. Learn how to buy vehicles and parts direct. Wagon Umbrella FREE. W. V. BOOB, Cincinnati, O

THE IMPROVED SCREW STUMP PULLER

Write for Prices.



Chamberlin Mfg. Co., Olean, N. Y., U. S. A.

STUMP PULLER

Most Powerful, Handiest and Strongest Built in the World.

We make 4 kinds in almost any desired strength. Saves time and does the work right. The operation of pulling stumps and trees by our methods is simple and easy. Send for Free Catalogue.

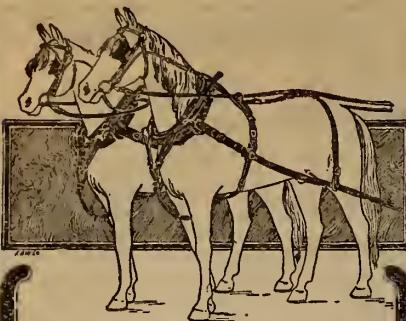
CHICAGO STUMP MACHINE MFG. CO.

226 La Salle Street, Chicago, Ill.

HERCULES STUMP PULLER

Clears an acre of heavy timber land each day. Clears all stumps in a circle of 150 ft. without moving or changing machine. Strongest, most rapid working and best made.

Hercules Mfg. Co., 413 17th St., Centreville, Iowa.



Is It Harness

or any sort of vehicle that will claim your attention this spring? Just a word before you buy. There's a standard. A guarantee of absolute worth, highest service, longest life, most perfect adaptability in

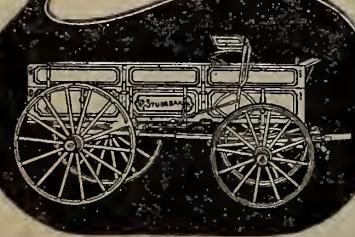
Studebaker

Vehicles and Harness.

You can't afford to experiment with untried goods for the sake of a small saving in first cost. Don't make the mistake of looking only at the price, and getting shoddy goods. Quality should be the first thought and that's where Studebaker's count. Studebaker's sell at honest prices and you are sure of value for your good money. Studebaker dealer in most every town. See him. Postal us for a catalog and particulars.

Studebaker Bros. Mfg. Co., SOUTH BEND, IND.

Chicago, New York, San Francisco,
Kansas City, Portland, Ore., Denver,
Salt Lake City, Dallas.



GET A GOOD WIND MILL

Don't buy a poor wind mill. Don't pay a double price. Send direct to our factory for catalogue of the

Freeman Steel Wind Mills

and four post angle steel towers. A complete line of pumping and power mills of the highest grade at extremely low prices. We can save you money on a *good* article.

S. Freeman & Sons Mfg. Co.
110 Hamilton St., Racine, Wis.

A complete line of Feed and Ensilage Cutters, Corn Shellers, Wood Saws, etc., at low prices.



MARK YOUR STOCK.

..... USE THE

KENTUCKY ALUMINUM EAR LABEL

Made by F. H. JACKSON & Co., Winchester, Ky.
Write to them for free samples.

if you wish to know about a really cheap saw-mill.

The Chicago House Wrecking Co. has a very attractive offer in another part of this issue. All sorts of farm supplies are offered at very low prices.

The Acme Churn is being investigated by numbers of our farmers and dairymen. Refer to the ad. and send for fuller description.

Any one wanting a fine Virginia plantation, fertile soil, fully stocked and equipped can hear of an exceptional offer by addressing "X," care the *Southern Planter*. The owner will exchange for town or city income property.

CHESAPEAKE & OHIO RAILWAY.

Interchangeable Mileage Tickets.— Commencing June 1, 1903, interchangeable 1,000 mile refund tickets will be placed on sale, limited to one year from date of issue, good only for transportation of owner with 150 pounds of baggage.

These tickets will be good over the following lines subject to certain restrictions and limitations:

Baltimore & Ohio R. R. east of the Ohio river; Pennsylvania R. R., Lehigh Valley R. R., Erie R. R. east of Suspension Bridge and Jamestown; Delaware, Lackawanna & Western R. R., Chesapeake and Ohio Railway east of and including Huntington, W. Va.

These tickets will be sold at rate of \$30.00 each, subject to refund of \$10.00 on surrender of cover to the Trunk Line Mileage Ticket Bureau, 143 Liberty street, New York city, within 18 months from date of purchase, making net rate \$20.00.

This form of ticket has been arranged for in deference to the wishes of patrons of the various lines who desire one mileage ticket good over several lines.

Agents at principal Chesapeake and Ohio stations will give further information regarding tickets on application.

HEEBNER THRESHERS AND POWERS.

Two machines which go hand in hand upon the farm, allowing the owner to do for himself what would cost him a considerable sum if he had to hire, are the Heebner Threshers and Cleaners, and the Level Tread Powers. Both represent high types of usefulness, as well they might, for they have been manufactured by one concern, the Heebners, father and sons, at Lansdale, Pa., for upwards of sixty years. They are the product of a region where people were taught to believe that the surest way to get on in the world was to do for themselves. These machines make that possible. The powers can be put to dozens of different uses upon the farm besides threshing. The threshers have a capacity of from 200 to 500 bushels per day. The owner of one easily does his own threshing, and may quickly re-

WELL DRILLING MACHINES

The most successful money-making machines ever made. Also machines for boring wells with augers by horse power. Write us if you mean business.

Loomis Machine Co., Tiffin, Ohio.

SEPARATOR FOR SALE OR EXCHANGE

A De Laval Humming Bird Separator, in perfect condition, used about 20 times; will sell cheap for cash or will exchange for a pure-bred Bull Calf of any Beef Breed—Polled preferred.

W. H. MacNAIR, Tarboro, N. C.

ROUND SILO

THE PHILADELPHIA.

The only Perfect Continuous Open Front SILO made. See Open-Top Patent Roof. Ask for Catalogue.

E. F. SCHLICHTER,
321 Vine St., Philadelphia, Pa.

Also made in the West by Duplex Mfg. Co., South Superior, Wis.

CRONK'S

Improved Staple Puller



IS AT THE FRONT. Ask your dealer to show it. Three wire cutters, two hammers, two splicing clamps—all in one tool. A Staple Puller that will pull wire when no other make will. A cutter that will reach wire when the button cutter will not. One day's use will save the cost of it. \$1.00, postage paid.

CRONK & CARRIER MFG. CO., Elmira, N. Y.

SAN JOSE SCALE

and other insects
can be controlled by using

GOOD'S CAUSTIC POTASH WHALE OIL SOAP. No. 3.

It also prevents Curl Leaf. Endorsed by entomologists. This soap is a fertilizer as well as insecticide. 50 lb. kegs, \$2.50; 100 lb. kegs, \$4.50. Half barrels, 270 lbs., at $3\frac{1}{2}$ c per lb.; barrels, 425 lbs., at $3\frac{1}{4}$ c. Large quantities, special rates. Send for circular.

JAMES GOOD,
939—41 N. Front St., PHILADELPHIA, PA.

FRAZER

Axle Grease

Best in the world.

Its wearing qualities are unsurpassed, actually outlasting 3 bxs. any other brand. Not affected by heat.

Get the Genuine.

FOR SALE BY ALL DEALERS.

FREE from anxiety over wash day are those who use a **DILLEY QUEEN WASHER**. We manufacture three styles of washers; to introduce them we will give you the advantage of our factory prices for a short time. Write for catalogue and prices. Our Up-to-Date at \$2.50.



LYONS WASHING MACHINE CO., Lyons, Mich.

A neat Binder for your back numbers can be had for 25 cents. Address our Business Office.

**WIRE FENCE.**

Heavy lateral wires, heavy hard steel stays, coiled spring wire. Sure Grip lock. In strength, appearance and durability, the Hard Steel cannot be excelled. Write for catalogue and prices.

THE HARD STEEL WIRE FENCE CO.,
Cuyahoga Falls, Ohio.

**Genuine Spiral Spring Wire FENCES AND GATES**

If your dealer does not have our goods in stock you can buy direct at Manufacturers' Price. Write for Catalogue and secure agency.

INTERNATIONAL FENCE AND F. CO.
Columbus, Ohio.

PAGE

Page Poultry Fence

Heaviest and strongest made—fences poultry IN and stock OUT. Dealers don't keep it. Write us.

PAGE WOVEN WIRE FENCE CO., ADRIAN, MICH.

LAWN FENCE

Many designs. Cheap wood. 32 page Catalogue free. Special Prices to Cemeteries and Churches. Address COILED SPRING FENCE CO., Box Q. Winchester, Ind.

**FENCE! STRONGEST MADE.**

Bull strong. Chicken wire. Sold to the Farmer at Wholesale Prices. Fully Warranted. Catalog Free. COILED SPRING FENCE CO., Box 63, Winchester, Indiana, U. S. A.

**To HOMESEEKERS.
"THE BUSINESS OF FARMING
IN VIRGINIA."**

Is the title of a new pamphlet issued by the Norfolk and Western Railway Company. We will gladly mail you a copy.

W. B. BEVILL, PAUL SCHERER, Agt., G. P. A., Lands and Immigration, Roanoke, Va.

**WE HAVE A LARGE LIST OF
FRUIT, POULTRY and TRUCK FARMS**

Ten, Fifty and One Hundred Acres each, with good buildings, close to steam and trolley lines, easy access to the city. Also

GRAIN AND STOCK FARMS

From 100 to 1,000 acres at low prices all the way from \$5 to \$50 per acre. Write for Catalogue.

THE VIRGINIA LAND AGENCY, Richmond, Va.
J. R. HOCKADAY, Manager.

cover the entire cost by threshing for his neighbors. All grains and grasses are within their compass, and they come from the machine ready for the bin. An advertisement will be found elsewhere in these columns. It should suggest to readers that it is as good a plan to do for one's self, to be independent of the coming of the thresherman, and to save where savings can so easily be made.

GWAIAKOWE.

Gwaiakowe is an Indian word, and means "Corn is King." In America corn is indeed the king of cereals, the grain alone being valued at considerably more than \$1,000,000,000, which is more than double the value of the wheat and oat crops combined. In addition to the grain value of the crop, the stalks when shredded are worth as much as the ears, and hence the McCormick corn binder and the McCormick husker and shredder have enabled the corn grower to double the value of his crop. A beautifully illustrated book, entitled "King of the Corn Field," will be mailed free to readers of the PLANTER upon request. Write to the nearest McCormick agent.

The proper ripening and maturing of whiskey depends on the care and method of storage. The warehouses of the Hayner Distilling Company are of the most modern and improved style, constructed entirely of brick and steel and equipped with the hot air system of heating and ventilating, which keeps the whiskey at a uniform temperature the year round. As a result their 7-year-old is as fully developed as 14-year-old aged in the ordinary, old-fashioned way, and it's better, too, for an uneven temperature of extreme heat and cold destroys the quality and flavor.

During the entire process of manufacture and from the time it is stored in barrels in their warehouses, until seven years later, it is bottled and shipped, Hayner Whiskey is under the watchful care of ten of Uncle Sam's Government officials. It goes direct from their distillery to you, with all its original richness and flavor, carries a United States Registered Distillers' guarantee of purity and age, and saves you the enormous profits of the dealers. Read the Hayner Co.'s offer elsewhere in this paper.

USED FOR YEARS WITH SPLENDID RESULTS.

Greensboro, N. C., Oct. 5, 1902.
The Lawrence-Williams Co., Cleveland, Ohio:

Please find enclosed check for \$1.50, for which please send me one bottle of GOMBAULT'S CAUSTIC BALSAM. I have used it for years with splendid results.—T. M. ARRASMITH.

A neat Binder for your back numbers can be had for 25 cents. Address our Business Office.

HOMES AND THE PLACE TO FIND THEM.

No place in the United States can a man do so well at farming, for the money invested, as in Virginia. Lands are cheap; climate good, and the best of markets close at hand. It is the State of all others, for a comfortable all the year round home. The James River Valley Colonization and Improvement Company offer superior advantages to land purchasers. For free 36 page land pamphlet, address

W. A. PARSONS, Vinita, Va.
C & O Main St. Depot, Richmond, Va.

**IF YOU WISH TO SELL
—OR BUY—
VIRGINIA LANDS**

Communicate with us. Write for free "Virginia Real Estate Journal," containing many splendid bargains.

R. B. CHAFFIN & CO., Inc.,
No. 1 N 10th St., Richmond, Va.

NICE FARM FOR SALE

on the Lynchburg and Durham R. R. at Winfall, Va., laying on both sides of track, over 300 acres, good buildings.

THOS. GOUGH, Lynchburg, Va.

VIRGINIA FARMS

\$3 PER ACRE AND UPWARDS.

EASY PAYMENTS. CATALOGUE FREE.

GEO. E. CRAWFORD & CO., Richmond, Va.
Established 1875.

PIEDMONT And all that it Implies."

Good land, climate, markets, shipping facilities, churches, schools, good health, moderate prices, easy terms.

MACON & CO., — Orange, Va.

FINE FARMS in the great fruit grain and stock section of VIRGINIA.

Best climate and water in the U. S. Near great markets, with best educational advantages. For further information, address

ALBEMARLE IMMIGRATION CO.,
SAM'L B. Woods, Pres
Charlottesville, Va.

VIRGINIA FARMS

All prices and sizes. Free list on application.

WM. B. PIZZINI CO., RICHMOND, VA.

Go South. For full particulars write A. JEFFERS, Norfolk, Va.**SOUTHWESTERN VIRGINIA****BLUE GRASS FARMS and MINERAL LANDS.**

Send for Free Real Estate Bulletin.

Southwestern Va. Land Agency, Wytheville, Va.

I Can Sell Your Farm

no matter where it is. Send description, state price and claim how. Est. '96. Highest references. Offices in 14 cities.

W. M. Ostrander, 1885 N. A. Bldg., Philadelphia

Mention the Southern Planter in writing.

ELMWOOD NURSERIES.

ASPARAGUS

100,000 2-yr. old Asparagus roots, 5 varieties. A special rate of \$3.50 per 1000 for 2 mos. for BARR'S, PALMETTO, CONOVER.

APPLES

A large general assortment, including WINESAPS and YORK IMPERIALS.

Splendid Assortment of Ornamental, Shade and Fruit Trees.

EGGS from B. P. Rocks, Light Brahmans, Brown Leghorns at \$1.00 per 13.

WRITE FOR OUR CATALOGUE.

J. B. WATKINS & BRO., Hollsboro, Va.

Wood's Farm Seeds.

Cow Peas and Soja Beans

Two of the most important crops for farmers everywhere. Write for leaflets entitled "Soja Beans vs. Corn" and "Cow Peas—The Clover of The South," giving special information about these crops. We carry large stocks of all SEASONABLE FARM SEEDS, Seed Corn, Millet, Sorghums, Teosinte, Late Seed Potatoes, Crimson Clover, Buckwheat, etc.

Wood's Seed Book and Special Circum-
lars giving prices and seasonable in-
formation, mailed free.

T. W. Wood & Sons, Seedsmen,
RICHMOND, - VIRGINIA.

SOJA BEANS

85C. PER BUSHEL.

BLACK PEAS

\$1.10 PER BUSHEL.

W. H. WILSON, St. Brides, Va.

A neat Binder for your back num-
bers can be had for 25 cents. Address
our Business Office.

EXTRAORDINARY BUGGY OFFER.

The Economy Buggy Co., exclusive makers of carriage and harness, Cincinnati, Ohio, are building one thousand of their celebrated Economy Ideal Buggies, which are regularly marketed at \$60, and are, until June 7th only, offering them to our readers at the low price of \$42.50, throwing in for good measure with each vehicle, free of all cost, one Economy Storm Front and one Economy Dust Hood, two essential articles for comfort and stylishness, and costing alone \$5.25 in any store. The terms the Economy Buggy Co. offers are as liberal as the price is low. They propose to reserve one of these buggies and storm front and dust hood for every person who writes them by June 7, 1903, and encloses five dollars. Catalogue and descriptive circulars will at once be sent the customer, fully describing all the options as to build, springs, finish, etc., of which there are many choices to select from. If the description fails to please him, he can at once have his five dollars reservation returned to him on request. If he finds the description to be just what he would expect to pay \$60 or more for, he can send the Economy people the balance of \$37.50 and shipping directions, and the buggy—just as ordered and specified—together with the storm front and dust hood will be forwarded promptly.

And this is not all. When the buggy arrives, examine it, hitch to it and try it thoroughly for ten days. If at the end of that time you are not perfectly satisfied with your purchase, send the buggy back to the factory, and every dollar of your \$42.50 will be returned.

BIG SALE OF HEREFORDS.

Messrs. Giltner Bros., of Eminence, Ky., send us the following item:

We beg to report the following sale of Hereford cattle to C. E. Clapp, of Berryville, Va., which is of special interest, inasmuch as it is the largest single transaction ever made in Herefords south of the Mason and Dixon line.

After figuring with the leading Hereford dealers on both sides of the ocean, Mr. Clapp purchased Acrobat of us at \$3,500, which is the highest price known to have been paid for a bull of his age (nine years old) in the world, with the exception of Grove 3d and Lord Wilton. It is generally conceded that Acrobat is one of the most phenomenal sires of the breed. There is hardly a Hereford herd of note in the United States but has the blood of this great sire represented either in their herd bull or in their leading females.

Mr. Clapp secured fifteen females, ranging in price from \$350 to \$600 per head. This consignment embraces the very choicest cows of the breed, among which may be mentioned the champion show cow, Benison, which won innumerable first premiums, and as a producing cow has to her credit Full-

SEED CORN
FOR SALE.

The corn growers can't afford to miss this chance of getting some of the earliest White Corn ever introduced, known as the "WHITE CHAMPION." It has been known to have been harvested in eighty days after planting. It has a very large, deep-grained ear, grows tall and makes an abundance of fodder and feed.

Price—One Peck, 65c.; Half Bushel, \$1.25; One Bushel, \$2.

W. M. WATKINS & SONS,
Randolph, Va.

DIGGS & BEADLES
RELIABLE
SEEDS

Selected SEED CORNS, SOJA and VELVET BEANS, COW PEAS, MILLET and SORGHUMS
Write for prices.

DIGGS & BEADLES, Seedsmen,
1711 E. Franklin Street,
RICHMOND, - VIRGINIA.
Catalogue mailed FREE.

"Crop Growing
and Crop Feeding."

BY PROF. W. F. MASSEY.
383 Pp. Cloth, \$1.00; Paper, 50c.

We offer this splendid work in connection with the SOUTHERN PLANTER at the following prices:

Southern Planter and Cloth Bound Volume, \$1.25.
Southern Planter and Paper Bound Volume, 90c.
Old or new subscriptions.

WALTER'S
Piano Exchange

We buy, sell and exchange PIANOS, do a general musical merchandise business and take trade.

PRICES THE LOWEST.
TERMS THE BEST.

F. W. WALTER & SON,
Staunton, Va.

SHROPSHIRE

filler, that stands at the head of Mr. Sotham's herd. This cow at Sotham's dispersion sale brought \$1,050. She now has a bull calf at foot by the \$6,000 Protector.

We have reserved our choicest Acrobat heifers, which we are mating to Britisher, Champion of both England and America. On this foundation rock we expect to build up our future herd, and surely from this cross we are justified in the expectation of producing a strain of Herefords second to none.

This firm has an advertisement in this issue, to which we invite attention.

STUDEBAKER ORDERS.

Two sales recently made by the Chicago house of the Studebaker Brothers Manufacturing Co. show which way the wind is setting with big concerns that are satisfied with nothing short of the best to be had in vehicles and harness. The first was to the Yellowstone Park Transportation Company, the concessionaires under the government of the transportation privileges in the Yellowstone National Park, who have some 800 head of horses in service. Some time ago this company ordered from Studebakers a few sets of harness, and having tested and compared them with other makes used by them, quickly followed with an order for fifty sets of four-in-hand harness. The order was placed expressly on the superior quality of the Studebaker goods. The other sale was to the W. C. Walch Co., of Chicago, and consisted of sixty United States mail wagons and sixty sets of harness to go into the government mail service and to be made after the approved government designs and specifications. These orders, though not of great magnitude as Studebakers do things, yet indicate in a forcible way the high standing of Studebaker goods.

MISSOURI AGRICULTURAL COLLEGE — GREATLY INCREASED ATTENDANCE.

The year just closing has been one of the most successful in the history of the Missouri Agricultural College. The total attendance shows the unprecedented increase of 30 per cent. This increase is due in considerable measure to the increase in entrance requirements. It is also largely to be attributed to the better facilities for instruction, which have been provided through the liberality of the General Assembly. The new horticultural, dairy and live stock buildings are now occupied by their respective departments, and in some cases are already overcrowded.

Dean H. J. Waters has been appointed Superintendent of Agriculture at the St. Louis Exposition, and has been given a leave of absence.

Professor F. B. Mumford has been appointed Acting Dean of the College of Agriculture and Mechanic Arts, and Acting Director of the Experiment Station.

Back lambs, yearling bucks and ewes for sale; also Poland Chinas, eligible to registry. Pedigrees furnished. Farmers' prices. J. F. DURRETTE, Albemarle Co. Birdwood, Va.

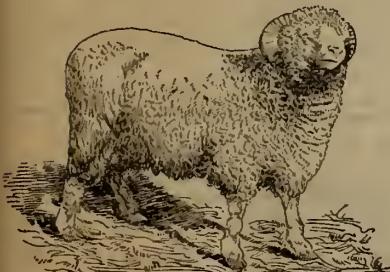
Shropshire Rams.

In this my annual offering of Rams, I feel safe in saying that it contains one of the best lot of yearling Rams that has been offered at the price in the United States for a long time. These Rams are 14 months old, and weigh (May 15th) 150 to 163 pounds, actual weight. They have individual merit backed by strong breeding. Careful selection will be made for parties at a distance.

ENGLISH SETTER PUPS. (Count Rodo, ex-Gladys R., both prize winners.)

WARREN RICE, Winchester, Va.

"WOODLAND," 239-2569.



Bred by us. The finest Dorset ram we ever saw. Is now at the head of our flock with "WOODLAND," 244-2745 Imp.

J. E. WING & CO., Mechanicsburg, O.

.. 70 Fine Native Ewes ..**— FOR SALE. —**

Each has big, fat, healthy, Grade Dorset lamb; also a fine, big, Registered DORSET BUCK; the whole flock at reasonable price; also a Stewart Hand Clipping Machine, made by the Flexible Shaft Co., used on 100 sheep, good as new, \$15.

GEO. R. S. CONNELL, Irwin, Va.

DORSETS and HEREFORDS.

I am now offering my superior herd bull ROY, MAY, 1903; and some fine male calves. I am also booking orders for Dorset rams and ram lambs.

H. ARMSTRONG, LANTZ MILLS, VA.

Horse Owners! Use**GOMBAULT'S Caustic Balsam**

A Safe Speedy and Positive Cure. The Safest, Best BLISTER ever used. Takes the place of all liniments for mild or severe action. Removes Bunches or Blemishes from Horses and Cattle. SUPERSEDES ALL CAUTERY OR FIRING. Impossible to produce scar or blemish. Every bottle sold is warranted to give satisfaction. Price \$1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars. THE LAWRENCE-WILLIAMS CO., Cleveland, O.

Fistula and Poll Evil

You can treat these diseases yourself and cure them in 15 to 30 days. FLEMING'S Fistula and Poll Evil Cure is easy to apply, perfectly safe to use, and your money is promptly refunded if it should ever fail to cure.

Interesting Booklets Free.

We have two booklets to send you. One tells about Fistula, Poll Evil, Spavin, Ringbone, Curb, Splint, Knee-Sprung, Lump Jaw, etc., with instructions how to cure them.

The other proves that you can cure them. Write to-day.

FLEMING BROS., Chemists, 22 Union Stock Yards. - Chicago, Ill.

HORSE COLIC.

Send me \$1.00 and I will tell you how to cure

HORSE COLIC

in 15 minutes at home.

Address — J. C. FITCHER, - South Boston, Va.

DEATH TO HEAVES

Guaranteed



NEWTON'S Heave, Cough, Distemper and Indigestion Cure. A veterinary specific for wind, throat and stomach troubles. Strong recommends. \$1.00 per can. Dealers. Mail or Ex. per. Newton Horse Remedy Co., Toledo, Ohio.

FOR SALE.

2 very fine Family Driving Horses, 6 yrs. old; 1 large Draft Horse, 1600 lbs.

125 extra grade of Breeding Ewes; their lambs selling at an average of \$4 per head. Will be sold in lots to suit purchasers. Call on or address

JNO. MATHEWS, East Richmond, Va.

2 miles east of Richmond on Seven Pines Street, Car Line

— SCOTCH COLLIES. —

Beautiful pups, fine pedigree \$5 & \$6. Poland-China pigs, good blood, (no pedigree) \$5.

Buff Rocks and Eggs, \$2.

T. M. WADE, Lexington, Va.

— COLLIE PUPS —

By Imported Sires Sable and white and tri-colors. Prices \$8 to \$15. Older ones correspondingly low. Book on Training, 50 cents; FREE if you buy a Collie. MAPLEMONT STOCK FARM, Albany, Vermont.

Kentucky HEREFORDS

Headed by the famous
ACROBAT

No. 68460 and the celebrated

IMPORTED BRITISHER

No. 145096 Champion Bull over all breeds in England and Grand Sweepstakes Champion at Chicago 1902 Live Stock Exposition.

We can furnish buyers with anything they wish from the FANCIEST THAT CAN BE BREED to the cheaper class usually desired by the beginner. Write us before buying. Glad to answer inquiries.

Giltner Bros., Eminence, Ky.

Hereford Gattle.

A number of young Registered HEREFORD Bulls and Heifers, not akin, at reasonable prices.

STONEHURST FRUIT AND STOCK FARM,
Union Mills, Fluvanna Co., Va

FOR SALE 8 Reg. HEREFORD BULLS

From 6 mos. to 3 yrs. old.

8 Reg. HEIFERS

From 6 to 18 mos. old. At reasonable prices.
HAYFIELDS STOCK FARM, Cockeysville, Md.

ELLERSLIE FARM

Thoroughbred Horses

AND SHORTHORN CATTLE,

Pure Southdown Sheep and Berkshire Pigs.

FOR SALE. R. J. HANCOCK & SON,
CHARLOTTESVILLE, VA.



COOK'S CREEK HERD
Scotch-Topped
Shorthorns

Herd Headed by Governor Tyler, 1585 48. Young Bulls for sale. Inspection and correspondence invited.

HEATWOLE & SUTER, Dale Enterprise, Va.

EAST RIVER SIDE

SHORTHORNS FOR SALE.

Two Red Heifer Calves to be shipped about May 1st.

ADDRESS

JAMES F. CLEMMER, - Summerdean, Va.

SHORTHORNS FOR SALE.

The Red and White Bull Calf **Westover** 138579; Roan Cow **Dina**, 4 years old, out of Red Jacket; also 10 months old Bull, to be registered if desired. I am now booking orders for Poland-China pigs for October delivery.

Inspection of stock invited.

J. H. BOELTE, Redfield Stock Farm,
News Ferry, Va.

DRIED BLOOD MEAL.

As it is true that "the blood is the life" of the animal, it should be apparent that Armour & Co.'s Dried Blood Meal, advertised elsewhere in this issue, must furnish a most valuable adjunct to the ordinary rations of farm animals and poultry. Containing, as it does, some 37 per cent. of digestible protein—eight times as much of it as is found in an average sample of oats—its chief value lies in the fact that but a small quantity of it is required to balance a ration composed largely of such starchy foods as corn, hay and corn fodder. It is protein that young growing animals most require, but that ingredient of food is most difficult to provide in immediately available form. It is lack of protein that causes many common and fatal or detrimental ailments among farm stock. Among these may be mentioned scours in calves and other young animals; abortion from incomplete nutrition of the fetus; rickets or softening of the bones; paralysis of the hind quarters in pigs; goitre in lambs; bloodlessness in growing, working or pregnant animals, and a host of other ailments. Dried blood meal, considering its remarkable richness in protein, is cheap and in concentrated form. It will keep poultry healthy and make hens lay. We advise our readers to write the firm for their booklets giving full information regarding its properties and uses.

A BEAUTIFUL CALENDAR.

The Plano Division of the International Harvester Co., Chicago, sends us a very beautiful calendar, the design of which is executed by Mr. George Ford Morris, one of the best animal artists in this country. This is certainly a very attractive piece of advertising and is fit to adorn the walls of any library or office. We have also received the annual catalogue descriptive of the Plano machinery. Like the calendar and all other advertising matter emanating from their offices, it is especially attractive. It is illustrated with pen sketches of farm life in different parts of the world and small photographs of actual field scenes on almost every page.

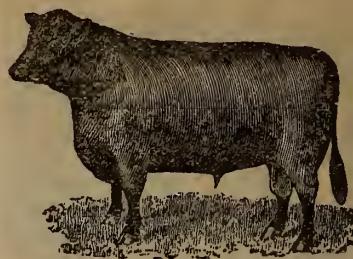
We certainly advise all of our readers to send for both the catalogue and calendar, as each is a work of art, independent of being good advertising of the concern they represent.

WHALE OIL SOAP.

Mr. James Good, of Philadelphia, who has been a regular advertiser of ours for years, has some circulars describing his Caustic Potash Whale Oil Soap, No. 3. This soap is specially recommended for the control of the San Jose scale, as well as other insects.

Mr. Good will very cheerfully mail this circular or give other information to all nurserymen and orchardists who are interested.

ANGUS CATTLE FOR SALE AT A BARGAIN.



High-Grade and Registered Angus Cattle; all ages of males and females. Get our prices before you purchase. We can save you money.

One Very Fine Dark-Gray Horse, 16 hands, weighs 1,125. He is very stylish, quick and active. A splendid driver, well broken in single and double harness and a fast mover. He is cheap at our price, \$200.00.

W. M. WATKINS & SONS,
Randolph, Va.
Charlotte county.

ABERDEEN-ANGUS BULLS FOR SALE.

1. My Herd Bull, ROCKBRIDGE ABATOR, No. 40364, 3 yrs. old Dec. 2d last; \$400.
2. A Bull Calf, born Dec. 20th; sired by the above "Abactor"; dam, "Pride of Potomac"; No. 42607; \$100.

3. A Bull Calf, born Dec. 12th; sired by the above "Abactor"; dam, a thoroughbred Angus Cow bred by the late William A. Ruff. Pure breeding can be shown for this calf, but being out of an unrecorded dam he cannot be registered; \$50.

None of these will be sold until October, and should the calves at that time not prove to be good specimens of the breed they will be withdrawn from sale.

R. F. DAY, Glasgow, Va.

MONTEBELLO HERD OF

Aberdeen-Angus Cattle.

3 Reg. Bull Calves for sale. Ages, 8, 4 and 3 months;

1 Thoroughbred (not entitled to registration), male, 2 months old.

BERKSHIRE PIGS of Biltmore Strain.

L. H. GRAY, LOCK BOX 58, ORANGE, VA.

SHORTHORN BULL CALVES 3 to 10 mos. old

FOR SALE.

Close descendants of the World's Fair greatest winners in 1893, and also up to the present time. SPECIAL OFFER:—A 1-year old Roan Bull Calf at \$75 if taken soon.

Poland-China Pigs of the best and most fashionable breeding. Spring Pigs now ready. Pedigree furnished with all stock sold. Come or write.

WM. T. THRASHER, Springwood, Va.

WE WILL EXCHANGE A—

Reg. SHORTHORN

(Durham) Bull, 2 years old, well bred, for bull of same breed to avoid inbreeding. We refer to former owner, Mr. R. L. Owen, of Lexington, Va. Address,

OCONEECEE FARM, DURHAM, N. C.

ANGORA GOATS are handsome, hardy and profitable. For large circular address E. W. COLE & CO., Big Clifty, Ky.

V.P.I. Farm Bulletin

Our Jersey Herd Bull for sale—PEDRO'S VIRGINIUS, 45919, grandson of Pedro, 3187, and of Marjoram Second, 12805, both of World's Fair fame. The Bull offered has been used in our herd for several years, and is sold to prevent in-breeding. Price low, quality considered.

D. O. NOURSE, Prof. of Agr.
Blacksburg, Va.

Swift Creek Stock and Dairy Farm



Has for sale a large number of nice young registered A. J. C. C.

JERSEY BULLS AND HEIFERS.

None better bred in the South. Combining closely the most noted and up-to-date blood in America. Bulls 10 to 12 months old, \$25; Heifers, same age, \$35. POLAND CHINA PIGS, \$5 each. Send check and get what you want.

T. P. BRASWELL, Prop. Battleboro, N. C.

REGISTERED JERSEY BULLS FOR SALE AT A BARGAIN.

Calves 1 and 2 yr. olds; also EGGS FOR HATCHING, W. & B. P. Rocks, W. & B. Leghorns, and S. L. Wyandottes, 75 cents for 15.

J. B. JOHNSON, Manassas, Va.
"CLOVER HILL FARM."

ST. OMER HERD

Offers young bulls fit for service, out of tested dams with good yearly records. In Exile of St. L., King of St. L. and St. Omer. Reasonable prices.

JOS. T. HOOPES, Bynum, Md.

WANTED—Pair Pure Bred PERCHERON and CLYDESDALE Brood Mares; DUROC Boar and Sows; one SHROPSHIRE, SOUTHDOWN and LINCOLN Ram and five Ewes. Address STOCK, care Southern Planter, with prices and particulars.

Don't Like Cheap Stuff No How

Even the best is never too good. You'd better buy of Owens. Finest Stock. Prices right. DUROC JERSEY, best all purpose hog; also POLAND CHINA. B. P. R. Chickens, M. B. Turkeys, M. P. Ducks. Eggs in season. Write, or better still, call and see.

THE CEDARS W. M. G. OWENS,
P. and S. FARM. Midlothian, Va.

150 JACKS, JENNETS and Mules 150

Best assortment I ever owned. Can suit you exactly. Write for description and prices. Also will sell two Percheron Stallions at close figures.

BAKER'S JACK FARM, Lawrence, Ind.

HAVE YOU PAID UP?

Recently we sent a bill to every subscriber who is in arrears for his subscription. The response was prompt and gratifying in the extreme. There are some few others who have not yet remitted. We would thank these to kindly give this very small matter their attention at once. The amount is small as a separate item, but a few hundred such will amount to quite a sum. We cannot, at 50 cents a year, carry many delinquents. Please let us hear from you.

ANTI-DIRT MILK PAIL.

Messrs. Hening & Nuckles, whose advertisement appears regularly in our columns, are offering in this issue a very useful device for farmers and dairymen in the shape of an anti-dirt milk pail. It is a very simple arrangement, consisting of a block-tin bucket with two sets of strainers independent of each other. Should any dirt by chance get through the outside strainer, the second one underneath is sure to catch it.

This pail also has a device which separates and cools the milk as it runs into the bucket.

Any one interested will receive an illustrated circular, together with testimonials from users, free on application.

SHORTHORNS AND SOUTHDOWNS AT "ELLERSLIE."

Messrs. R. J. Hancock & Son, of the famous "Ellerslie" Stock Farm, have their annual offering of Shorthorn Cattle and Southdown Sheep in another column. The Shorthorns consist of some choice bulls 3 to 6 months old by Fairfax, the splendid grandson of Knight of the Thistle. The Southdowns are rams by the imported Warwick, of King Edward's Sandringham flock. All stock in good working condition, and is being sold at farmers' prices.

A MATTER OF PEDIGREE.

"Marcus," said Rastus Bivins to his son, who had just returned from college with a great, bushy head of hair, "Marcus, what in the name of common sense did you learn at school, anyway? You can't saw the wood; you won't plough; you won't go to work; you won't do nothing but sit around here and read. I'm getting tired of it! I'm getting tired of it! If you don't do something, young man, and that pretty soon, I'm going to enter you at the State fair in the hog show. That hair of yours might help you some there."

"Don't worry about it—
it—" said Marcus affectionately. "Don't worry about that; I wouldn't take any prize, because, you see, I have no pedigree."—*Silas Xavier Floyd, in Lipincott's for May.*

BERKSHIRES

ANNEFIELD HERD

Represents the

Finest Blood Lines

in England or America.

Stock for sale at all times.

Correspondence Solicited.
Inspection Invited.

EDW. G. BUTLER, Annefield Farms,
Briggs, Clarke Co., Va.

REGISTERED

BERKSHIRES.

One 2 yr. old boar; and young stock 10 wks. Both SEXES.

"Mansfield" W. E. HAMMOND,
Farm. Goochland, C. H. Va.

CHOICE YOUNG

BERKSHIRES

of Both Sexes, for Sale.

By Highclere Topper of Biltmore II, out of Imported Harlene.

Miniborya Farm, Box 901, Richmond, Va.

HAWKSLEY STOCK FARM.

Large ENGLISH BERKSHIRES B. P. ROCKS FOWLS,

Eggs from same, \$1 per 13.

J. T. OLIVER, Allen's Level, Va.

FOR SALE.

Large English Berkshire Hogs, Barred Plymouth Rock Chickens

BEN. BOLT, 60747, 430 lbs. as a yearling at head of herd. EGGS IN SEASON.

JOHN P. FOSTER, Nocreek, Ohio Co., Ky.

ESSEX PIGS—FOR SALE.

Some fine Pigs, from Registered Stock, mated, at \$10.00 per pair, crated F. O. B. 8 to 10 weeks old. Your orders solicited.

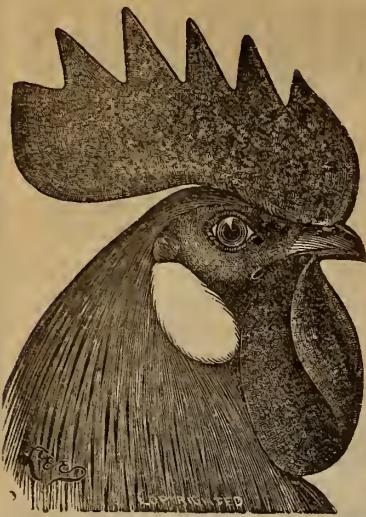
L. G. JONES, Bethania, N. C.

Registered P. Chinas
Berkshire, C. Whites. Fine large strains. All ages, mated not a in, 8 week, pigs. Bred sows. Service boars and Poultry. Write for prices and free circular. P. F. HAMILTON, Cochranville, Chester Co., Pa.



Mention the Southern Planter in writing.

LEGHORN POULTRY YARDS



Have for sale a limited number of Single Comb Brown and White Leghorn Pulletts and Roosters. Best layers known. Prize-winning stock. Price, \$1 to \$1.50 each. Eggs in season at \$1 for 16; \$5 per 100. Satisfaction guaranteed. Address

A. T. MATTHEWS, Box 36, Parksley, Va.

EGGS EGGS EGGS

That will hatch out DOLLARS. Not real dollars, but Turkeys and Chickens of the best strains in this country, which will net the owner more real dollars of profit than any others. I handle "Nothing but the Best" in my line. My prices are higher than some others, but the quality more than makes the difference. National strain Mammoth Bronze Turkeys, sitting 18, \$2; National strain, Barred Plymouth Rock Chickens, sitting, 15, \$1.50.

PIEDMONT POULTRY PLACE,
Miss E. Callie Giles, Prop. Whittle's Depot, Va.

SHADOW - BROOK - POULTRY - YARDS.

EGGS FOR HATCHING. B. P. Rock Eggs, \$1 per 30. Pekin Duck Eggs, \$1 per 20.

Pedigreed Scotch Collie Pups, \$5 each. Train-ed yearling Collies, \$10

A sure home remedy for chicken cholera and roup, 25c. each. Also a certain exterminator of cabbage and currant worms and potato bugs, 25c. Both are inexpensive, safe and sure.

C. H. BENNETT. Goodman, Va.

BROWN LEGHORNS

[ROSE COMB.]

"The Celebrated Maryland Strain." Prize Winners. Eggs, \$1.00 per 15; \$5.50 per hundred.

JOHN P. MAYS, - Glencoe, Maryland.

32 Varieties
Best Poultry

poultry keepers should have it.

JNO. E. HEATWOLE, Harrisonburg, Va.

SILVER WYANDOTTES

EXCLUSIVELY.

Famous "Blue Grass" Strain; none finer. Eggs, \$1 per 13; \$2 per 30. 22 years a breeder and shipper.

S. P. YODER, Denbigh, Va.

GOOD ROADS.

A FARMER'S COMPLAINT.

Good roads are what we need, and need 'em bad; In this there is no greed, yet 'tis sad To see the towns get all the plums While we get only crumbs.

There's riches in good roads did towns but know it; We farmers then could send great loads of produce there to store it; An' yet we're denied this one boon— good roads— They'll repent, ah, soon!

Mud bottoms, they say, are good enough for us; "No State tax—the town can pay for roads. A trust is what you need. Buy up all the good roads and then be rich—you greed!"

Thank you, we're not a speculator— we'll wait awhile— Kind nature sends the mud, and later, we'll see you smile— A sickly smile, when you behold our grain and produce Pass by your door, and sold.

April 1, 1903. E. C. M.

MR. HICK'S ORGY.

Mr. Caleb Hicks, of Bowman's "Crick," a settlement not many miles from Wilkesbarre, Pa., had a novel experience during Christmas week.

Though Mr. Hicks had toiled on his farm till he had reached the ripe age of 62 years, he had never been so far away from home as Wilkesbarre. Having disposed of his fall crop of turkeys most advantageously, and believing himself to have attained years of discretion, he decided to drive to town and make a day of it. Since his return he has had much to say of the sights he saw in the city, but perhaps none of his adventures proved quite so thrilling as his visit to the theatre.

"I found out about the the-a-tre," says Mr. Hicks, "and I followed a crowd goin' in. They charged me 75 cents for a seat—75 cents, mind you. Well, I paid it, for I didn't want to git into no dispute, and they took me in and set me down in a velvet chair. There in front of me was the biggest picture I ever see, and the best, by jingo! A oil painting it was, bigger than two double barn doors. I set an' admired it awhile, and pretty soon a lot of fiddlers came in and began to play. There must have been a dozen of 'em. They all played at the same time. Made good music, too, darned if they didn't! Never see fellers keep together so well as they did. They played several tunes; none of 'em I ever heard before, but 'twas good, lively music.

"First thing I knew the big picture began to roll up, darned if it didn't! Went clean up to the ceiling on a pole. Then some people came out and began talking to each other. They didn't

Little Chicks

thrive when fed on our

BABY CHICK FOOD.

A perfect balanced food. Send for free sample and our large illustrated catalog of POULTRY SUPPLIES, INCUBATORS and BROODERS.

FANCIERS' SUPPLY CO.,
517-519 West Broad St.,
Richmond, Va.

EVERYTHING FOR THE FANCIER.

White Plymouth Rock

Eggs during June and July, 13 for 75c, 30 for \$1.50. No White Holland Turkey eggs for sale after June 10th.

JOHN A. CLARK, - Shirley, Va.

WANTED!

ALL KINDS OF

LIVE WILD BIRDS AND ANIMALS

Particularly Deer, Wild Turkeys, White Squirrels, Ducks, Swans, Etc.

CECIL FRENCH,
718 Twelfth St. N. W., Washington, D. C.

BARRED and BUFF
PLYMOUTH - ROCKS
AT HALF PRICE.

FRED NUSSEY-SUMMIT, Spots. Co., Va.

White Leghorns.

Egg Record—2,213 eggs in one year from eighteen hens.

Eggs, \$2 per 15; \$5 per 60.

Write for circular to-day.

C. G. M. FINK, 1409 W. Leigh St., Richmond, Va.

BARRED P. ROCKS and
S. C. B. LEGHORNS.

15 eggs, \$1.00; 30, \$1.75.

Pekin Ducks—11 eggs, \$1; 22, \$1.75. Bargains in INCUBATORS, ORGANS and PIANOS. Satisfaction guaranteed. Rev. J. W. HECKMAN, SPOTTSYLVANIA, VA.

WHITE MINORCAS.

The best of layers, big true Minorca shape birds that win everywhere. They will please you.

Eggs reduced prices now. Catalog free.

F. S. BULLINGTON, Box P, Richm'd, Va.

Aryshires, Berkshires and Oxford-Downs.

Ayrshire Calves of both sexes, Berkshire Pigs and Boar and 2 Oxford-Down Rams for sale. MELROSE CASTLE FARM, Enos H. Hess, Manager, Casanova, Va.

WHITE YORKSHIRE

Pigs entitled to registration, FOR SALE.

Henry H. Clarke, "Chantilly,"

Broad Street Road, Richmond, Va.

talk about anything I was interested in, so I got up and came home. But, by jingo! that the-a-tre was a great place, and I'm going to kick over the traces again some day and go back."—CAROLINE LOCKHART (SCZETTE), in *May Lippincott's Magazine*.

THE SCHOOL-BOY OF 1903.
"Tommy, have you been vaccinated?"

"Yes, ma'am."

"Have you had your vermiform appendix removed?"

"Yes, ma'am."

"Do you use sterilized milk?"

"Yes, ma'am."

"Is your home connected with the city sewer?"

"Yes, ma'am."

"Have you shed all your milk-teeth?"

"All but one."

"Have you a certificate of inoculation for the croup, chicken-pox and measles?"

"Yes, ma'am."

"Is your lunch put up in Dr. Koch's patent antiseptic dinner-pail?"

"Yes, ma'am."

"Have you your own sanitary slate-rag and disinfected drinking-cup?"

"Yes, ma'am."

"Do you wear a camphor-bag around your throat, a collapsible life-belt, and have you insulated rubber heels on your shoes for crossing the trolley-line?"

"All of these."

"Have you a pasteurized certificate of baptism?"

"Yes, ma'am."

"And a life-insurance non-forfeitable policy against all the encroachments of old age?"

"Yes, ma'am."

"Then you may hang your cap on the insulated peg set opposite your distinguishing number, climb into your seat and proceed to learn along sanitary lines."—*Judge*.

SCOTCH SENSE.

An Englishman and a Scotchman were disputing over the relative merits of Shakespeare and Burns.

"And ye say, do ye, thot Billy Shakespeare was a greater mon than Robbie Burns?"

"Yes, I do; hans hevery Hinglismen knows hit."

"But ye say thot it was Shakespeare who said, 'Uneasy lies the head thot wears a croon.'"

"Certainly hit was Shakespeare. Robbie Burns could never 'ave said that."

"Noo, noo; Robbie Burns would never hae said thot; he had ower muckle sense to say a thing like thot."

"Ower muckle sense, man! What do you mean?"

"Yis, yis; Robbie Burns would hae kent that on'y king would hae ta'en his croon off and hoong it on the back of the chair before lying doon. You forget thot Robbie was a Scotchman."—*Tit-Bits*.

ARMOUR'S BLOOD MEAL

Cures Scours
in Calves.

First proved by the Kansas Agricultural Experiment Station, and since corroborated by thousands of leading stockmen who have used it without a single failure. Equally effective for the diarrhea of all animals.

PREVENTS weak bones, paralysis of the hind legs and "thumps" in pigs; "big head" of foals; "rickets" of all young animals; abortion due to incomplete nutrition, and a host of other troubles.

A Potent Food for Work Horses, Dairy Cows, Poultry.
Write us for booklet giving valuable information about Blood Meal and our other feeding products. Consult us free of charge regarding stock diseases.

THE ARMOUR FERTILIZER WORKS,
Chicago. Omaha. Baltimore. Atlanta. Jacksonville.

"ELLERSLIE."

SHORTHORNS SOUTHOWNS

ed but are first class in every respect.

REMEMBER.—We do not ask fancy, but *farmers' prices*.

Our stock is not in show ring but *working condition*.

R. J. HANCOCK & SON, Charlottesville, Va.



BERKSHIRES.

Imported Sir John Bull, No. 3609—B. H. B.

Imported Dansfield Roland, No. 60528—B. H. B.

Imported Columbia, No. 60527—B. H. B.

Imported Royal Carlisle, No. 4841—B. H. B.

And that Immensely Princely Hog

Uncle Sam, No. 7233 are the sires of my Spring and Summer offerings of pigs. Does this list of Royalty suit your fancy? They represent the most famous Berkshire breeders of England. Fancy stock, moderate price

Hunting Dogs and pups for sale. Setter pups, \$5.00 each.

Short Horn (Durham Cattle) for sale. Write for particulars.

THOS. S. WHITE, Fassifern Stock Farm, Lexington, Va.

HILL TOP STOCK FARM.

Berkshire Hogs and South- Down Sheep

A SPECIALTY.

S. Brown Allen, who succeeds H. A. S. Hamilton & Co in the ownership and management of this celebrated Stock Farm, offers a few Berkshire Pigs that have been bred without regard to cost, and one and two year old

SOUTHDOWN BUCKS,

that cannot be excelled in this country. We have swept premiums on this stock over all competitors at Fairs in this and adjoining States

S. BROWN ALLEN, Staunton, Virginia, (Successor to H. A. S. HAMILTON & Co.)

CHESAPEAKE & OHIO RAILWAY.

2,000-mile tickets discontinued. On and after June 1st, 2,000-mile tickets will be withdrawn from sale and replaced by the 1,000-mile refund interchangeable tickets heretofore announced.

PAT'S FIRST THOUGHT. *

Back in the good old days when nerves and railroads were little known, an old stage-road ran from Lake Champlain to Ogdensburg, N. Y., passing through the little town of Sodom. This village nestled in a valley between two great hills, over which the white ribbon of the road wound steeply.

Upon one of the trips of the stage the regular driver, who had been at home for some weeks recovering from an illness, was riding inside while the red-haired, mild-featured, big-boned Irishman acting as his substitute occupied the driver's seat upon the box. The day was a beautiful one and the passengers were enjoying their drive keenly, their appetites increasing as the distance lessened between them and the town of Sodom with its promised pause for refreshment.

Suddenly, as the heavy stage lumbered over the brow of the hill, down which the road plunged at a sharp angle, running through the little town at its foot and ascending the hill beyond, the passengers became conscious that their pace had been recklessly increased. Faster and faster they went, dashing down the hill at a rate rapidly becoming a furious one. Trees and bushes at last became but a dizzying blur along the road. All clung to the reeling stage and held their breath in terror, while on the stage raced, down the hill with ever-increasing speed, into the town, past the hostelry with the waiting host left standing in amaze at the door, past the post-office without pause and out upon the road leading up the face of the hill beyond. There the pace slackened and as the incline grew more steep, at last the smoking horses came to a standstill. With one accord the dazed passengers tumbled out and surrounded the driver, who now stood at the head of his reeking leaders.

"What is it, Pat? What is it? Did they get away from you?" came the breathless questions.

"Nope," replied Pat with a set face, "it wor that," pointing grimly before him. There lay the stage-tongue dragging uselessly on the ground at the heels of the horses and completely severed from the coach. At a glance the regular driver comprehended the meaning of the danger to which the passengers of that stage, deprived of its sole means of guidance, had been exposed, and, realizing the miracle of their escape, he turned sick and fainted where he stood.

Later, back at the inn, when the excitement had somewhat subsided and fresh horses were being put to the



ENGINES AND SEPARATORS

The Farquhar threshing machinery is the perfected product of the pioneer manufacturers of **Grain Separators** and **Threshing Engines**. It's the most durable and cheapest threshing outfit a farmer can buy. The **Celebrated Ajax Threshing Engines**, made in sizes from 4 h. p. up, have seats, foot brakes, and two injectors. Provided with every approved safety appliance. **Farquhar Separators** have every advantage of capacity, thoroughness of separation, simplicity and durability. Every part thoroughly tested. Made in all styles and sizes. Send for free catalogue of Engines, Threshing Machinery, Saw Mills, etc.

A. B. Farquhar Co., Ltd.
York, Pa.

CISMONT DORSETS

CISMONT STOCK FARM offers well developed young Dorsets of the best blood of England and America.

Prices Reasonable.

G. S. LINDENKOHL, Keswick, Albemarle Co., Va.

We Are Still in the Business....

"HILL TOP" Stock at Shadwell, Va.

Having changed our residence, we brought with us and have for sale a choice lot of HILL TOP stock.

Jersey Cattle, Southdown and Shropshire Sheep, Berkshire Hogs and B. B. R. Game Chickens.

Our Berkshire Pigs are now closely sold up, but we will have a fine lot ready to ship by September 1st. We will be glad to serve our old friends and are always glad to make new ones.

We have won more premiums on sheep and hogs at State and County Fairs than all other breeders in Virginia combined.

H. A. S. HAMILTON & SONS, Shadwell, Va.

EGGS FOR HATCHING

[From Fowls of High Merit, Fresh, and a Good Hatch
Guaranteed of the following varieties:—

PLYMOUTH ROCKS, BROWN LEGHORNS, WHITE LEGHORNS and PEKIN DUCKS at \$1.00 per sitting of 15
BRONZE TURKEY EGGS, \$3.00 per dozen.

Jersey and Guernsey Cattle and Berkshire Pigs. Four handsome Great Danes and three Fox Terrier Puppies.

M. B. ROWE & CO., - Fredericksburg, Va

INCUBATORS ON 30 DAYS' TRIAL.

THE WORLD'S BEST STANDARD HATCHER.



Thousands of these incubators are in successful operation in the United States, Canada, South Africa, New Zealand, Sweden, England, Holland, and Germany. These machines operate to perfection and always bring off a large brood of strong, healthy chicks. Catalogue with full particulars

Free for the asking. THE STANDARD F. C. INCUBATOR CO., Dept. 5, Rochester, N. Y., U. S. A.



repaired coach, some one turned to Pat and asked:

"Pat, what was your first thought when the pole dropped?"

"Well, sor," he answered, settling the quid more comfortably in his cheek, "me furst thought wor, 'Lord, ha' mercy on our soul's!' Thin thinks I to meself, 'Darn a horse that can't outrun a wagon!' and I licked the poor devils all th' way down the hill!"—*Evelyn Currier, in June Lippincott's Magazine.*

VIRGINIA AT THE ST. LOUIS EXPOSITION.

Editor Southern Planter, Richmond, Va.:

Dear Sir.—As you are aware, the State has made an appropriation for exposition purposes at St. Louis for next year, and this Commission is desirous that Virginia should make as fine a showing as possible in the various departments. We believe that this offers great opportunities for the advertisement of Virginia's agricultural resources, and to illustrate this to the world we would appeal through your columns to the farmers of this Commonwealth, to give us their cordial support by devoting especial attention and culture to some portion of such crop or crops as their sections may be particularly adapted to, and thus try to produce exceptionally fine samples to furnish this Commission for exposition purposes. These articles will be transported and exhibited without further expense to the grower, and full credit will be given to the producer on the label attached at time of exhibition. This will give a wide advertisement for any products which may be for sale, and offers a splendid advertisement of the advantages of Virginia real estate to prospective settlers.

I will deem it a great favor if any parties who will be willing to co-operate with me in this work, will give me notice by letter and I will aid them in every way possible to make their products beneficial both as an advertisement for themselves and for the State.

G. E. MURRELL, Supt.

Office, third floor, Capitol Building.

CLASSIFIED.

During an encampment of the National Guard of Pennsylvania at Mount Gretna several years ago a party of officers went out for a stroll, and happening to pass a farm-house near the encampment grounds, one of them suggested stopping in for a glass of milk. On going inside the yard they were met by the farmer's daughter, who brought forth a can of buttermilk and some tumblers, saying: "This is the only kind of milk we have."

After each of the party had taken a drink, one of them remarked: "By George, that's fine; can you let us have some more?"

The lass replied: "Oh, yes, take all you want; we feed it to the pigs, anyway."—*Philadelphia Times.*

We will return your money if after using

Chloro-Naphtholeum Dip

In accordance with directions, you can say it hasn't killed the Lice on your stock, and cured the **Mange, Itch, Scabs and Ticks.** Try it and you'll never do without it. Booklet free. Worth its weight in gold. Trial gallon sent prepaid upon receipt of \$1.50—by your dealer or

AGENTS WANTED.

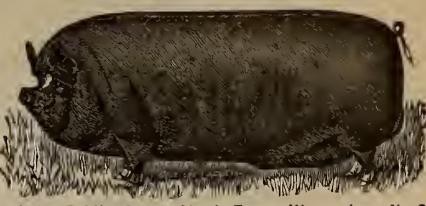
WEST DISINFECTING CO., Inc., 30 East 59th St., New York.

"The Oaks" Herd.
OFFERS || 2 Registered SHORTHORN COWS,
FOR || 2 Registered MORGAN COLTS, and a few
SALE— || good yearling SHROPSHIRE RAMS.
B. B. BUCHANAN, Bedford City, Va.

We **positively guarantee** to breed and ship the **VERY BEST** strains of thoroughbred registered **LARGE ENGLISH BERKSHIRE** Hogs for **LESS MONEY** than any other firm in the U. S., the superiority of our stock considered. Send us your order and we will satisfy you both in price and stock.

WALTER B. FLEMING,

Proprietor of the Bridle Creek Stock Farm, Warrenton, N. C.



Reg. HOLSTEIN-FRIESIAN

CATTLE of the Netherland, De Kol, Clothilde, Pietertje and Artis families. Heavy milkers and rich in butter fat. Stock of all ages for sale.

Reg. BERKSHIRES From noted strains, Imported Headlight, Lord Highclere and Sunrise.

DORSET SHEEP

B. PLYMOUTH ROCK CHICKENS,

N. & W. and Southern R. R.

T. O. SANDY, Burkeville, Va.

LARGE YORKSHIRE HOGS.

The Ideal Bacon Breed,

The Pork-Packers Breed,

The Most Prolific Breed,

The Most Profitable Breed.

We have **four litters** of this popular breed, which will be ready for shipment in May. Bred from the best imported stock. We have never seen better pigs.

Send for circular and prices. Address—

BOWMONT FARMS, Salem, Virginia.

30 YEARS SELLING DIRECT



No. 331—Surrey. Price \$68.
As good as sells for \$40 more.

We are the largest manufacturers of Vehicles and Harness in the world selling to consumers exclusively.
WE HAVE NO AGENTS but ship anywhere for examination, guaranteeing safe delivery. You are out nothing if not satisfied. We make 195 styles of vehicles and 65 styles harness.

Visitors are always welcome at our factory.

Large Catalogue FREE.
Send for it.



No. 544—Light Stanhope. Price \$58.50.
As good as sells for \$35 more.

ELKHART CARRIAGE & HARNESS MFG. CO., Elkhart, Ind.

THE WELCOME AT THE DOOR.

There is a home I visit sometimes which has a special charm. The mistress, who answers your ring, is blind, but before you can say a word, with beaming face she cries, "How glad I am to see you!" No matter how inopportune the call may be, it is always with radiant delight and cordial words that every one is greeted.

I wondered about it—how it could always be the same welcome, for I knew there were domestic whirlwinds that upset her work and plans just like in other homes. I somehow concluded that it was her special gift, one of her compensations, and so settled the matter. Later, this same subject of the welcome or unwelcome guest, and treatment thereof, coming up in a little circle of friends, I was interested to find my friend quoting her mother, and then I found the solution. Her mother had taught her that no matter how the unexpected guest may find you, unprepared in every way, let your first welcome be generous and instant. Let no thought pantry-ward make your greeting constrained or apologetic.

Give the cordial greeting that cannot be forgotten, and the responsive glow in the heart of the guest will gild deficiencies which may afterward appear; but no after effort can make a guest forget a chill and constrained welcome at the door. This little word has been of service to me, so I give to others.—*Ladies' Home Journal*.

A RAILROAD SWITCHMAN AT A REVIVAL MEETING.

"Stop! you there making for the door! Don't you know the Lord is calling you and that you are running away from Him? Don't you know that you are going straight to hell?"

Putz was working on a limited schedule now and there was not much time to spare, but he could not resist the temptation of having one pass at him, so he stopped and faced around. As he did so he became conscious that every eye in the church was on him. Putz didn't often get the centre of the stage, and the novelty of the thing pleased him greatly, it was such a contrast to his old accustomed place in the back row of the chorus. Raising his voice so as to reach the least seats in the gallery, he replied:

"Number Six is calling me, too. Didn't you hear her? If I don't get down there and set that switch for Number Six a whole train-load of people will go to hell. Looks like hell's up to me both ways. Guess I'll set the switch. Good-bye, Doc." Having de-

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Service Bulls; Imported Salisbury 76059 (19083). Lars Jr. 85297.

FOR SALE—A choice lot of bull calves and yearling bulls. The bull calves sold recently weighed 600 lbs. at 6 mos. old. Call and make your own selection. Prices right.

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SHROPSHIRE SHEEP.—Bucks, one year old and over, \$15 to \$20. Buck Lambs, July delivery, \$10 to \$12. Ewe Lambs, July delivery, \$8 and \$10.

POLAND-CHINA HOGS.—Pigs, six weeks old, \$5. Pigs, two or three months old, \$7.50. Pigs, five months and over, \$15 to \$20.

M. BRONZE TURKEYS.—Toms, \$4. Hens, \$3. Eggs, per sitting of 12, when in season, \$4.

MUSCOVY DUCKS.—Pure White Drakes, \$1.25. Pure White Ducks, \$1. Pairs, \$2.25. Trios, \$3.

BARRED PLYMOUTH ROCKS.

ROUEN GEESE.—Ganders, \$2.50. Geese, \$2.50. Eggs, per sitting, \$3.

WILLIAM L., Jr., No. 21058, half brother of Axtell, will serve a limited number of mares for \$25 the season. Mares boarded at lowest figures per month.

livered himself of which, he departed without waiting for further developments. The boys told him when they came down, after it was all over, that the "old boy" did not get things going in good shape any more that night.—MONTGOMERY B. CORSE, in *May Lippincott's Magazine*.

TACOMA'S BIG SAW-MILL.

With One Exception It Is the Largest in the World.

At Tacoma I visited a saw-mill said to have a greater capacity than any other in the United States, and, with one exception (in Norway), the greatest in the world. It is, in fact, two separate mills, covering a wide, low flat with docks on the sound where ships can be loaded at the door of the yards. Here the logs from the camp which we visited are sawed. They are dumped from the railroad cars into ponds of water and held until the mill is ready to cut them into lumber. Mr. Royce showed me through this great establishment, with its devices for handling the enormous logs of fir and cedar, hemlock and spruce, which come to it daily.

Nearly every step in the long process is performed by some human-like machine. Logs weighing many tons are handled like jack-straws—pulled out of the water, whirled over, lifted about, gripped, slabbed off, turned again easily, and, directed by the swift and sure judgment of the expert sawyer, driven through band-saws or great gang-saws, cutting twenty boards or more at once and finally trimmed to certain lengths—everything moving at once, smoothly, with an absolute exactitude. In fifteen minutes from the time the log enters the mill it has been reduced to lumber of several grades; the poor parts have been whittled up into lath and shingles, the slabs have been shot out on a great pile for firewood and the remaining bark, sawdust and refuse have been carried away to the fire heap. This mill cuts 100,000,000 feet of lumber and 90,000,000,000 shingles a year, and its product goes the world over—to Australia, Hawaii, China, South Africa, South America and Europe.—From Ray Stannard Baker's "The Conquest of the Forest," in the *May Century*.

SHE WAS A BIRD.

"Amos," sighed Mehitable Scruggs, "doesn't the spring bring inspiration to your soul?"

"May be it does, Mehitable," answered Amos Medooney.

"Doesn't it bring to you tender, soulful, thrilling thoughts when you see the little birds making their nests and choosing their mates? Doesn't it make you think of a nest for yourself and—and—"

"Mehitable!" gasped Amos, reaching for her hand, "you've got me up a tree."—*Judge*.

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The Sire is half the herd. In Baron Roseboy, is combined the typical "doddy" form with a pedigree that cannot be excelled. He is a brother of the great "Gay Lad" (sold at \$3050), who heads the largest Angus herd east of the Mississippi; is also brother of "Hector of Lakeside" at the head of the great Pope River herd of Illinois; is uncle of the "10th Laird of Estill" at the head of the greatest Angus herd in America.

On dam's side, Baron Roseboy traces direct to the Imp. Blackbird Bull, "BA&UTO," said to be the best Blackbird Bull ever imported.

The females in the herd are "chips off the same block". Great bulls, great cows, mean great calves. Come and see them, or write

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USES FOR DRY BREAD.
(Birdie B. Bates.)

BREAD CRUMBS.—The scraps of bread that cannot be used on the table can be placed in the oven and dried or toasted a delicate brown, then rolled very fine and placed in a close or air-tight jar. When frying pork chops, veal cutlets, fish, chicken, etc., dip the meat into a well-beaten egg, then into the crumbs, letting them remain five or ten minutes, then add more egg and more crumbs and fry in hot fat. Serve on a hot platter, garnished with parsley.

Egg on Toast.—We have the fried, poached and scrambled egg on toast, but did you ever try the bird's nest? The children always enjoy anything in this line, so tempt their appetites some morning with the following: Toast the desired amount and butter lightly, placing the pieces of toast on a baking pan and drawing aside where it will keep hot. Select as many fresh eggs as you have pieces of toast and separate the whites from the yolks. Beat the whites to a stiff foam and salt lightly. When I say stiff, I mean that the foam should stand alone. Now place a spoonful of the beaten white on each piece of toast, arrange a round space in the center and place the unbroken yolk in it. Add small bits of butter, salt and pepper and place in a hot oven until the egg is cooked as desired. Serve hot.

CREAM TOAST.—Toast small pieces of bread to a nice brown and arrange in individual sauce-dishes. Take one quart of milk and heat to the boiling-point in a double boiler; when just at the boiling point add a well-beaten egg that has had a little cold milk added to it. Salt and pepper to taste and add two tablespoonfuls of sugar. In a small saucepan place one tablespoonful of butter and when melted stir in one tablespoonful of flour. When all the starch grains of the flour are broken add the hot milk, let boil once, then pour over toast and serve.

CROUTONS.—Many people prefer croutons rather than crackers with soup. They are very appetizing and easily prepared. Take bread that is stale enough to toast nicely, cut into medium slices, butter lightly, cut into strips or squares and place in a quick oven and toast. Some prefer them of stale bread cut into cubes or squares, then dropped into hot fat and browned. Lift them from the fat with a skimmer, drain, add to soup and serve.

INVINCIBLE POTATO PLANTER.

The H. H. Wabers Co., of Racine, Wis., are advertising elsewhere in this issue their Invincible Potato Planter. This planter is certainly a great labor saver and is guaranteed to plant from 50 per cent. to 100 per cent. more hills in a day than any other. It has a number of special features, which are fully described in a little circular sent free by the company. Look up the advertisement.

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PICK UPS.

If an old fowl is skinned before cooking it will become tender in a shorter length of time and will be of much finer flavor.

In families where canned pears are not particularly well liked, a sliced orange to a pint of pears will often make them more palatable. A pineapple shredded with a silver fork into canned pears makes them delicious.

Mothers may be glad to know what a young girl taught me last summer. To tie shoe strings so they will remain tied, pass either loop—usually the right-hand loop—around under the second time before drawing the bow up tight. When you desire to untie the knot it will pull out by the strings the same as usual.

After removing iron rust with lemon juice and salt rub the places with clear water. If soap is used a bright yellow spot will appear that will be more difficult to remove than the iron rust. Rubbing clothes lightly through the rinse water will prevent the bluing from settling in them and will whiten them amazingly, particularly if rain water is used.

A bashful gentleman who visited a school kept by a young lady, was asked by the teacher to say a few words to the pupils. This was his speech: "Scholars, I hope you will always love your school and your teacher as much as I do." A tableau of giggling pupils and a blushing teacher attested the effectiveness of his words.

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You ought to have a copy of this book in your home or office and we will send it upon request.

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feet per roll. 12 inch..... \$0.40 per roll.
18 inch..... 0.65 per roll.
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Other grades at correspondingly low prices.

Wrought Iron Pipe

2 1/2" diameter, 10 feet, 1/2" to 12" diameter.

We have in stock 2,000,000 feet of Standard
black wrought iron pipe, second hand. It is
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1/2" inch at 1/2 cents per foot.
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We bought several car loads of new Portable
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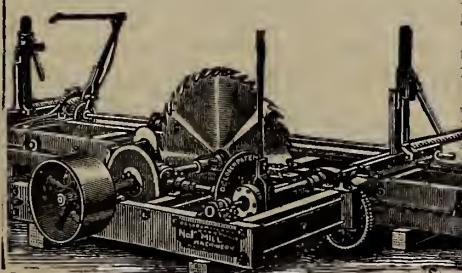
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Set Works, complete as shown in cut,
except it has Carriage made in two 4 foot
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With 36" Solid Saw, \$127.50; 40", \$132.5
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Farm No. 2.

Contains 265 acres; 215 under cultivation; 50 acres original oak and hickory. Fronts on the pike running from Winchester to Alexandria; five miles from railroad; one-half mile from proposed electric railroad. Excellent six-room dwelling house, with broad halls, standing in a large, nicely-shaded blue-grass lawn; all necessary outbuildings; land chocolate clay, with stiff clay subsoil; all level, but rolling enough to drain well; fine for wheat and grass; well watered. Owner contemplates making improvements. But if sold before, price \$25 per acre, on easy terms.

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Contains 430 acres; 350 acres under cultivation; 80 acres in good original oak and hickory timber. Situated in Loudoun county, four miles from railroad station; one mile from proposed electric railroad. Soil in fine state of cultivation; adapted to grain and grass. Land level and watered by streams, and a beautiful, bold spring in the yard. Good dwelling and outbuildings; two new stock barns. Greater part of farm in grass. Price now, \$20 per acre.

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Contains 100 acres, all under cultivation, and in good condition. Good frame dwelling and all necessary outbuildings in good condition. Situated on the pike, with market wagons passing every day, paying Washington city prices for produce. Splendidly situated for fruit, poultry, dairy and trucking. Price now, \$2,000, on easy terms.

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Contains 163 acres; one-half under cultivation; balance in second-growth timber. Good seven-room dwelling and necessary outbuildings; good orchard in fine fruit section. Farm lies near Southern railroad, twenty miles from Washington; well watered; a splendid dairy farm. Price, \$2,000.

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Contains 315 acres in high state of improvement. Large frame dwelling, 10 rooms, 2 large cattle barns, and all necessary farm buildings in good repair. Land watered by spring branches. Situated in aristocratic neighborhood. Convenient to depot and to Washington market. Price, \$50 per acre.

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A PROMISED SPECTACLE AT THE ST. LOUIS FAIR.

Mere cost and bigness do not constitute excellence, but magnitude is impressive, and money does things. The St. Louis World's Fair, however, has other things to recommend it than size and expenditure. In the first place, the topography of the site favors effects that could not be achieved on the flat of Jackson Park. The view from "The Apotheosis of St. Louis" across the Grand Court along the broad avenue between the Education and Electricity buildings, thence across the Basin and up the Cascades to Festival Hall and the Terrace of the States, will doubtless surpass any spectacle heretofore seen at a world's fair. This is the central physical feature of the exposition. A crescent-shaped hill crowned by the Colonnade of the States, with the imposing Festival Hall in the center of the crescent; on each extreme of the crescent, 1,900 feet apart, an ornamental restaurant pavilion; a central cascade 290 feet long with a total fall of 80 feet in twelve leaps ranging from 4 to 14 feet and side cascades 300 feet long, with a total fall of 65 feet. The water will be discharged into a basin 600 feet wide. The two miles of lagoons have their beginning and end in this basin. The abundant supply of water will be drawn from the city mains, but will be filtered to a crystal clearness. Between the cascades will be gardens. Each of the cascades will be framed in sculpture, consisting of sportive groups of nymphs and naiads and other mythological fancies. The center cascade will be crowned by a group composition showing Liberty lifting the veil of Ignorance and protecting Truth and Justice. The east cascade will represent the Atlantic Ocean and the west cascade the Pacific, the symbolism being that the Purchase has extended liberty from ocean to ocean. Assurance is given that the three cascades will completely eclipse the cascade of the Trocadero at the Paris Exposition, the cascade at St. Cloud and the Chateau d'Eau at Marseilles.—From "The Louisiana Purchase Exposition," by Frederick M. Crunden, in the American Monthly Review of Reviews for May.

A child may often be expected to put his or her heedless little foot in it, as the phrase goes. For instance, a youngster one day begged an invitation to dinner at the house of a little friend with whom he had been playing. At the table, his hostess anxiously inquired: "Charley, can you cut your own meat?" "Humph!" said the youngster, who was sawing away; "can't I? I've cut up quite as tough meat as this at home." People who are destitute of tact might take warning from such juvenile malaprops, but such does not often appear to be the case, judging by numerous examples to the contrary.



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4 full quarts Corn Whiskey 10 years old, \$3.50

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Or will ship the 12 qts. named above for \$11.00

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THE OLD NICK WILLIAMS CO.,
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JUSTLY INDIGNANT.

The house had been full of aunties come to spend the holidays, and the baby's 6-year-old brother was heard one morning confiding his woe to his father.

"Say, papa, do you know I've had to sleep a whole week in a room just full of women?"—Lippincott's Magazine for May.

A neat Binder for your back numbers can be had for 25 cents. Address our Business Office.

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The company is unique among organizations of the people. It is not co-operative, as the long lines of industry which stretch out from the home of modern co-operation in the English town of Rochdale are co-operative. It is not communal in any sense like the Amana, the Oneida and similar societies. It is not held together by any political, religious or sociological tie. Its only bond is that which maintains every successful business organization in the world. These farmers have turned business men and they have been so extraordinarily successful that they stand ready to become manufacturers whenever they find they cannot buy in a fair market. It appears to be the first commanding proof that the common people in country place or town or city have in themselves the power to apply a remedy to the diseases of such trusts or combinations of capital as are inimical to the welfare of the general public.

It is worthy the attention of the student of present-day problems, as well as of the investor, that, in this day of enormous inflation of capital stock, the business of these Iowa farmers, running now well on to \$1,000,000 a year, has been conducted on a capital never larger than \$25,000. Still more significant, it requires the assent of two-thirds of the 500 members of the firm before any money may be borrowed, and no more than \$5,000 may be borrowed at any one time. At no time may the total indebtedness of the firm rise above \$5,000. The by-laws of the company's articles of incorporation provide that no shareholder shall sign any bond, or sign, endorse or guarantee any note, bill, draft or contract or in any way assume any liability, verbal or written, for the benefit of security of any person, without the written consent of a majority of the directors. The by-laws also provide that none of the funds of the company shall be loaned to any person.—From W. S. Harwood's "Five Hundred Farmers" in the May Centuary.

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G. B., in *May Lippincott's.*

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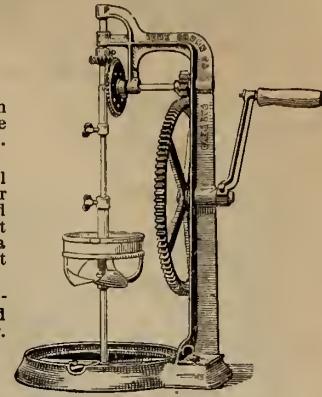
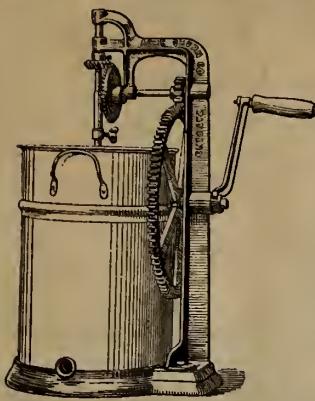
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R. J. Hancock & Son, Charlottesville, Va. Catalogue of the Ellerslie yearlings to be sold at the Brooklyn Race Course, Gravesend, N. Y., June 12, 1903.

Piedmont Nurseries, Piedmont, N. C. North Carolina Woody and Herbaceous Plants and Other Ornamentals. Spring Catalogue, 1903.

Danforth Chemical Co., Leominster, Mass. Bug Death.

Plano Division International Harvester Co. of America, Chicago, Ill. Lightening Plano Harvesting Machines.

Deering Division International Harvester Co. of America, Chicago, Ill. The Deering Corn Machine Annual for 1903.

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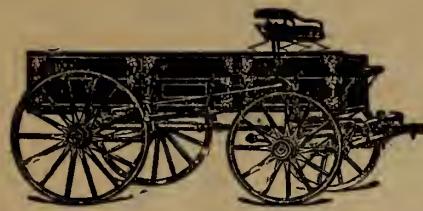
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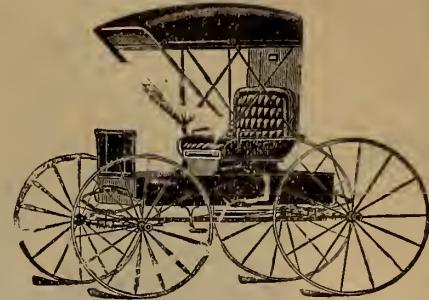
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REPORTS.

U. S. Department of Agriculture, Washington, D. C. Bureau of Animal Industry. Circular 40. Officials, associations and educational institutions connected with the dairy interests of the United States for year 1903.

Bureau of Chemistry. Bulletin 75. Sugar Cane Culture in the South best for the manufacture of table syrup.

Office of Experiment Stations. Experiment Station Record. Vol. XIV., No. 9.

Office of Experiment Station. The Source of Carbo-Hydrates for the South for the Production of Meat.

Office of Experiment Stations. Some Features of Recent Progress in Agricultural Education.

Office of Experiment Stations. Cooperation Between Experiment Stations and Farmers.

Office of Experiment Stations. Popular Editions of Station Bulletins. Single Germ Beet Balls and Other Suggestions for Improving Sugar Beet Culture.

Sugar Beet Pulp as Animal Food. Farmers' Bulletin No. 113. The Apple,

and How to Grow it.

Farmers' Bulletin No. 167. Cassava. Farmers' Bulletin No. 168. Pearl Millet.

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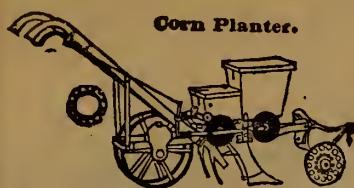
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LABOR-SAVING IMPLEMENTS AND MACHINERY.

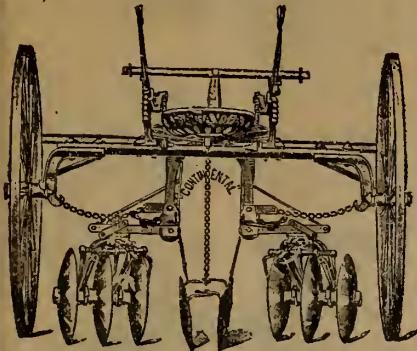


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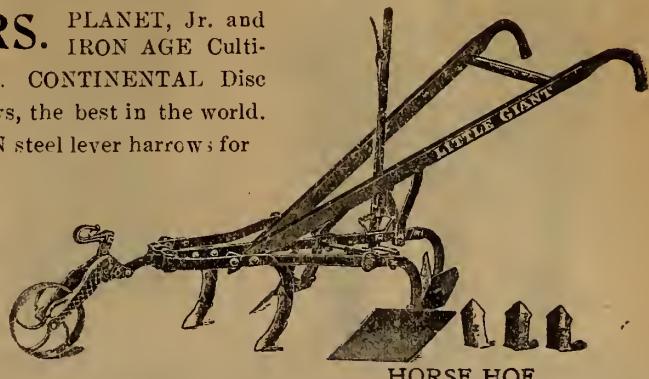
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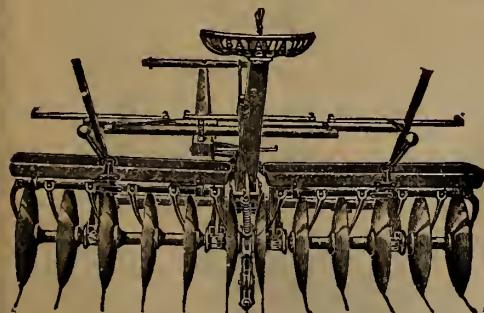


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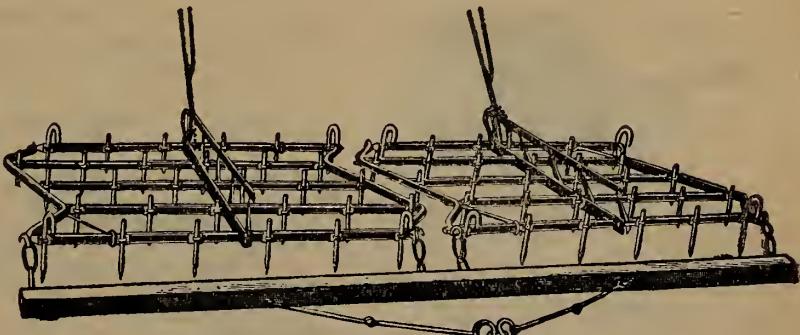
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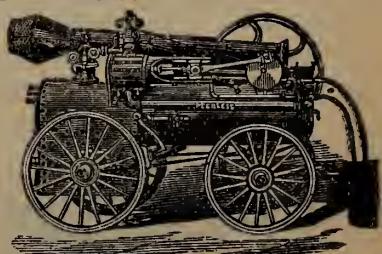


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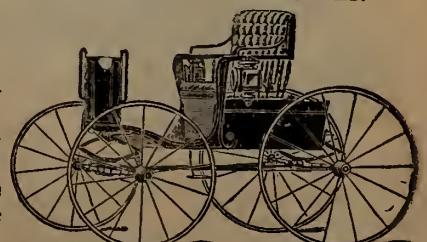
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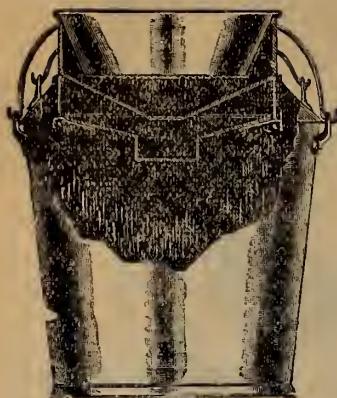
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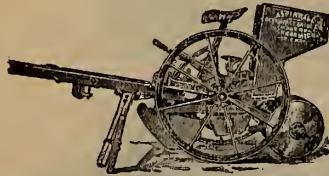


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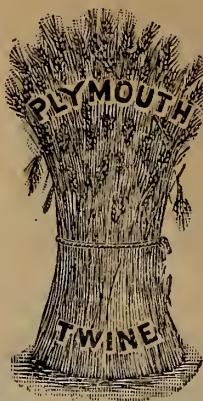
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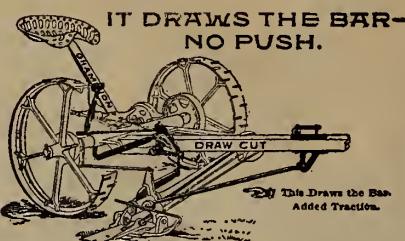
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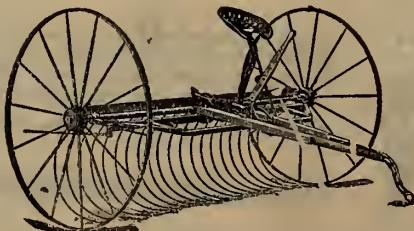
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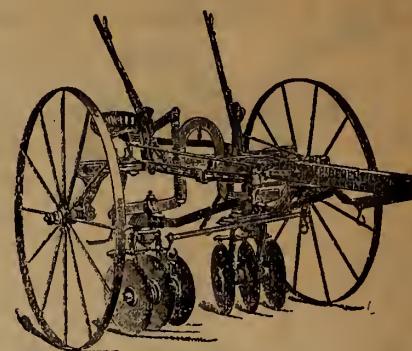
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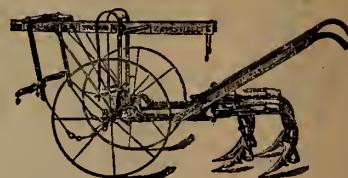
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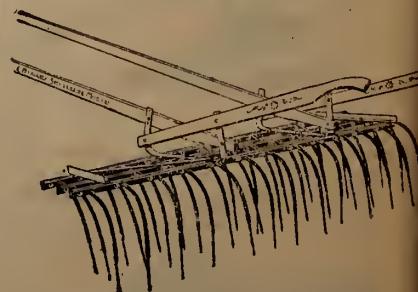
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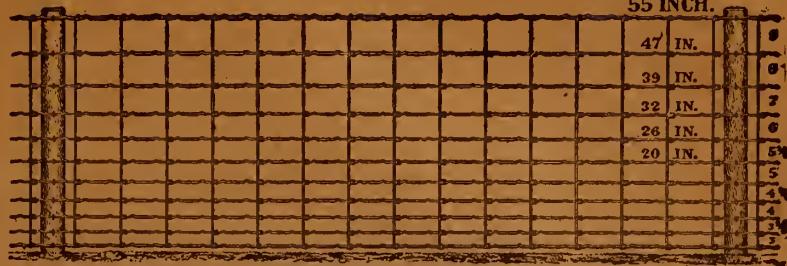
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